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PASSING BY.

BY THE AUTHOR OF "JOHN HALIFAX, GENTLEMAN."

"And they told him, that Jesus of Nazareth passeth by."

O RICH man, from your happy door,
Seeing the old, the sick, the poor,
Who ask for nothing, scarcely weep,
To whom even heaven means only sleep;
While you, given good things without measure,
Sometimes can hardly sleep for pleasure;
Let not the blessed moment fly:
Jesus of Nazareth passes by.

Is there a sinner, tired of sin,
Longing a new life to begin?
But all the gates of help are shut,
And all the words of love are mute;
Earth's best joys sere, like burnt-up grass,
And even the very heavens as brass;
Turn not away so pitilessly—
Jesus of Nazareth passes by.

Self-hardened man, of smooth, bland smile;
Woman, with heart like desert isle
Set in the sea of household love,
Whom nothing save "the world" can move;
At your white lie, your sneering speech,
Your backward thrust no sword can reach,
Look, your child lifts a wondering eye—
Jesus of Nazareth passes by.

Oh, all ye foolish ones, who feel
A sudden doubt, like piercing steel,
When your dead hearts within you burn,
And conscience sighs, "Return, return."
Why let ye the sweet impulse fleet,
Love's wave wash back from your tired feet—
Knowing not Him who came so nigh—
Jesus of Nazareth passing by?

He must not pass! Hold Him secure;
In likeness of His helpless poor;
Of many a sick soul, sin-beguiled;
In innocent face of little child;
Clasp Him—quite certain it is He—
In every form of misery;
And when thou meet'st Him up on high,
Be sure He will not pass thee by.

Good Words.

A QUESTION.

BY H. H.

WHEN, after blissful hours of converse free
With some rich mind, whose every word can make
Transfiguration of our thoughts, and wake
Our utmost powers, until we seem to be
New born,—we sink to barren poverty
Again with common souls, will memory take
The shape of joy or woe? of joy for sake
Of joy once known? or piteous misery
Of yearning that it come again?
I think
If unto Lazarus it had been said,
Some day, "Come in! eat once thy fill of bread
And meat, and of rich wine, the best wine, drink
Likewise thy fill," the beggar had replied,
"Nay, Master! It were harder then outside!"

Christian Union.

LOVE.

A LYRIC.

OH Love, that came to me on lightest wing
One dawning morning of the dewy spring,
When the year's earliest lark awoke to sing:

Oh Love, that swept aside, as if in jest,
The old companions I had cared for best,
Through all the days of my unbroken rest:

Oh Love, that took from me the mantle grey,
Which gentle peace had round me wrapped alway,
And bade contentment leave my onward way:

Oh Love, that decked me in the loveliness
Of an intense ethereal happiness,
And bade it henceforth be my daily dress:

Oh Love, that sent through all my tingling frame
A glowing warmth I knew not how to name,
Which burnt upon my cheek in crimson flame:

Oh Love, my strong and overflowing heart,
Which bore throughout that day so proud a part,
Believed how beautiful a thing thou art.

. . . . . .

Oh Love, that left me on a wintry day,
When earth in an enshrouding whiteness lay,
And all the sunless face of Heaven was grey:

Oh Love, that snatched from me my glorious dress,
Nor cared that in my naked loneliness
I found no refuge from my deep distress:

Oh Love, that looked upon me standing there,
My hopes as grey, and all my life as bare
As sky and earth, above, around me were:

Oh Love, that flying never turned thy head,
Nor marked one tear of all the many shed
For the departed, for contentment dead:

Oh Love, that found me peacefully secure,
That gave me riches which might not endure,
And left me so immeasurably poor:

Oh Love, my feeble and all empty heart,
Which bore throughout that day so sad a part,
Knows what an awful thing thou wert and art.

All the Year Round.

From The London Quarterly Review.

MODERN ASTRONOMY.*

THE unprecedented advancement of the natural sciences during the past quarter of a century is mainly attributable to three sources: the discovery of the mechanical equivalent of heat, the new application of the prism to spectrum analysis, and the theory of natural selection. The first of these has unfolded a law as absolute and important as that of gravitation itself; and with an application equally unbounded. The investigations of Mayer and Joule have demonstrated finally that whenever work is performed by the agency of heat, an amount of heat disappears equivalent to the work performed; and when mechanical work is spent in producing heat, the heat generated is equivalent to the work spent. Now the enunciation and proof of this law involved a recasting of the entire question of matter and force, and gave a new meaning to the known activities of the universe. It was soon suspected that *all* energies were interchangeable at the expense of fixed equivalents. It had been demonstrated that sound took its rise in atmospheric vibrations. Without air there could be no sound. That similar vibrations in an imponderable and almost infinitely attenuated "ether" spread to the farthest boundaries of the universe would account for the phenomena of light, some powerful and sagacious minds had long held. Meanwhile the corpuscular theory of Newton was growing more and more incompetent to cover and explain new discoveries. "Diffraction" and "interference" could only be made accordant with it by a strained and supplementary hypothesis; which in its turn had no place for the phenomena of polarization. It was therefore abandoned; and, in the hands of Young and Fresnel, the theory of ethereal undulations, traversing with intense but measurable rapidity the whole universe, was found competent to account for all known phenomena of light. The discovery that energies of all kinds were capable of transmutation followed: which led to the profound induction that all the phenomena of energy are the result of diverse ethereal atomic vibrations. The atoms of a body vibrating with intense rapidity communicate their vibrations to the ether; these reach the tactile nerves, and the sense of heat ensues. But a certain measure of heat will produce an unvarying equivalent of electricity. That is, the atomic vibrations change their form. Thus, if a ball of copper be rapidly rotated between the poles of a powerful electro-magnet, the rotation can be instantly arrested by exciting the magnet; and if it be now forcibly rotated, the molecular disturbance is so great that an easily fusible metal inside the ball will *melt*, and may be poured out. Clearly the molecular vibrations have been altered; the vibrations of electricity have been changed into those of heat. It is thus with every known energy.

Ultimately, then, the material universe consists of atoms and ether: these manifest ever-varying phenomena by the diversities of their interaction — "modes of motion." Motion is the direct consequence of the exertion of power; and by this, what do we mean? Our idea of power is derived from our consciousness of its possession. The notion of power

* 1. *Essays on Astronomy.* By RICHARD A. PROCTOR, B.A., Cambridge. London: Longmans, Green and Co. 1872.

2. *The Sun: Ruler of the Planetary System.* Second Edition. By R. A. PROCTOR, B.A., Cambridge. London: Longmans.

3. *The Moon: Her Motions, Aspect, Scenery, and Physical Condition.* By R. A. PROCTOR, B.A. Longmans.

4. *Saturn and its System.* By R. A. PROCTOR, B.A. Longman, Green, Longman, Roberts, and Green. 1865.

5. *Other Worlds than Ours: the Plurality of Worlds Studied under the Light of Recent Scientific Researches.* By R. A. PROCTOR, B.A. Third Edition. Longmans, Green and Co. 1872.

6. *Descriptive Astronomy.* By GEORGE F. CHAMBERS, F.R.A.S. Oxford: The Clarendon Press. 1867.

7. *Spectrum Analysis in its Application to Terrestrial Substances and the Physical Constitution of the Heavenly Bodies, Familiarly Explained.* By Dr. H. SCHELLEN. Translated from the Second Enlarged and Revised German Edition by JANE and CAROLINE LASSELL. Edited with Notes by W. HUGGINS, LL.D., D.C.L., F.R.S. London: Longmans, Green and Co.

8. *Spectrum Analysis.* Six Lectures delivered in 1868 before the Society of Apothecaries of London. By H. E. ROSCOE, B.A., Ph.D., F.R.S. Third Edition. London: Macmillan and Co. 1873.

does not come to us from without, but from within. We are conscious of the power to produce a certain result: that result is accomplished without us — without any visible cause — nevertheless we can only think of it as the result of power. Power, in fact, in its ultimate condition, is only known to us as a property of living beings. The selective tendencies of animal life involve its possession. In another fashion it is equally manifest in the vegetable world; but to what extent, or whether at all, this is associated with consciousness, we cannot affirm. But descend to inorganic nature. Throw a pellet of cork into water: nothing but mechanical results ensue. Into the same water throw a piece of sodium. Note the result. Oxygen and hydrogen had been at rest as water, all their affinities were satisfied. But in an instant, on the introduction of the metal, the intense propensity of oxygen for sodium causes it to leave the hydrogen and unite with the metal; and the fervid heat of union sets the liberated hydrogen in a flame. What is this but tendency? What is tendency but power? It is something of which we have an absolute knowledge. Yet in this case it is the operation of that which is dead; we only know power as the attribute of life; — will. It follows then that the operations of the physical universe — the selective activities of dead matter — are the result of the action of an unlimited and intelligent Will. Hence the modes of molecular and ethereal motion, which display to us the phenomena of the universe, are the direct result of the will-force of the Omnipotent. It is mind manifesting itself in matter. The consequence is, the absolute indestructibility of matter and motion. Molecular motions may be changed from one mode to another, but the quantity of motion in the universe cannot alter. It cannot be increased or diminished. And this is a corollary from the fact that motion is the direct result of the power of an infinite mind. The relation between the matter and the motion must be once, and forever, perfect, and therefore absolute.

It is manifest that the enunciation of such a doctrine as this, disclosing the absolute relations between matter and what some physicists persist in calling "force," * must open a new universe to eager seekers; and the results of research have been one series of triumphs.

The modern application of the prism to physical investigation we shall shortly consider somewhat at large; but, in the history of experimental science, no discovery has so rapidly opened the secrets of nature, or so plainly disclosed the glories of the cosmos.

The third source of scientific progression — the theory of natural selection — is of another order. It is the influence of a theory simply — a stimulant to research — and of a theory in which the greater proportion of "facts" from which its inductions are made are hypothetical. But its effect upon practical biological science has been incalculable. The doctrine is being formed slowly but surely, under the untiring inquiry it has stimulated; it has proved an hypothesis, which, like the assumed quantity of the mathematician, may lead to approximate results of splendid value. Certainly its direct issue has been an accumulation of facts and a wealth of knowledge which have opened out a new universe to the students of organic forms.

If then the results of these three great sources of scientific impulse be taken side by side with the consequences of unvarying industry in the old paths, it may be anticipated that the last twenty years of labour will have expanded our knowledge of the nature of phenomena beyond the most sanguine anticipations. The relations between matter and motion, the physical and chemical constitution of the universe even to its most distant parts, and the laws and conditions which sustain and render life possible, are all questions which have received a rare accession of the most impressive and important contributions.

With every material expansion of our knowledge, especially of the stellar universe, a question of overwhelming

* It must be clear that motion is energy, the mode by which force-power does work.

interest recurs: — What is the meaning of the incalculable hosts of orbs that people the measureless ether? Have we come nearer the solution of the question, Are there worlds beyond us habitable and inhabited? Fortunately the new results in science have found brilliant and exact popular expounders, especially in physics and astronomy. In the latter, Mr. Proctor, whose charming treatises lie before us, stands foremost. Armed with large mathematical power, an accurate observer, an easy and often original interpreter of the observations of others, and occupying a position which keeps him abreast of the latest facts, he becomes an interpreter to the people of the most abstruse research, in a manner at once attractive, exact, and clear; and to his sagacity as an interpreter we are indebted for a comprehensive consideration, conducted purely in the light of modern science, of the question of the habitability of other worlds.

Dealt with as a mere question of imagination, it can yield no possible fruit, but guided by analogy in the light of rigid investigation, we may approach it in a philosophic spirit, and approximate to truth; whilst our investigations can only ennoble our view of the Creator, and enhance our interest in his works. This was its result in the mind of the Hebrew king, as he sang —

When I consider Thy heavens, the work of Thy fingers,
The moon and the stars, which Thou hast ordained;
What is man, that Thou art mindful of him?
And the son of man, that Thou visitest him?*

Doubtless the force of these words must depend on the astronomical knowledge of the Psalmist: but there is much to indicate that that knowledge was large. Many Eastern systems of astronomy bear evidence of a common origin, and the vast antiquity of the primordial system cannot be doubted. Egyptian astronomy itself appears to have been derived; and Professor Piazzi Smyth has recently shown that the architects of the great pyramids were acquainted with astronomical facts regarded as wholly modern discoveries. But it can scarcely be questioned that it is to the Chaldæans that we are indebted for the origin and high culture of the grandest science. Their accuracy as observers is marked. They knew the relative distances, and understood the motions of the planets; could follow comets in their vast orbits, and predict their return. There is therefore a high probability that they knew the true system of the universe. Some of the knowledge they possessed appears to involve the use of telescopic appliances; and recent research sustains this. Layard found a lens of rock-crystal at Nimroud; and Sir D. Brewster has no hesitation in affirming that it was used for the increase of optical power. The Chaldæans lived successively under the rule of the Assyrian, the Babylonian, and the Persian; and eventually servitude degraded their passionate love of celestial studies into mere astrology. But their earlier history, even in servitude, shows not only their accuracy, but the width of their observations. They were conducted with great exactitude at Babylon. Calisthenes transmitted to Aristotle observations made there 2250 B.C. They invented the Saros, a cycle for the accurate prediction of eclipses; which differs from the one now used by astronomers by only nineteen minutes twenty-two seconds.

Now if all this be remembered, and the relations of the Hebrew people to the Chaldæans and their conquerors be considered, the highest probability attends the supposition that the loftier and more cultured of the Hebrew minds were acquainted with an approximately true and certainly sublime astronomy. Hence David's view of planets and stars was the calm outlook of a reverent mind, not upon a mere spangled canopy, but upon unnumbered hosts of worlds whose very grandeur compelled his song.

The author of the book of Job had a knowledge of cosmical matters enormously in advance of far later times. A striking instance of this occurs when, in speaking of the earth as the work of God, who "commanded the morning" and "caused the dayspring to know his

* Psalm viii. 3. 4.

place," he says, "It is turned as a clay-seal." * apparently a direct reference to the axial rotation of the earth; for there are slabs of clay now in our museums from Nineveh and Babylon recording facts, dates, and sidereal phenomena, which were produced by rolling a cylindrical seal by pressure on its axis, over the face of the prepared clay. On this it would seem the metaphor is based. Nor should it be forgotten that it is the most cultured and widely endowed minds of Scripture that make these incidental allusions; therefore in this connection the striking utterance of Isaiah in the forty-fifth chapter of his prophecy is of large moment.

For thus saith the Lord that created the heavens;
God Himself that formed the earth and made it;
He hath established it, *He created it not in vain,*
He formed it to be inhabited. (V. 18.)

Suggesting that such a world would have been aimless waste and vain if not crowned and governed by an active intelligence.

Of course we cannot infer merely from the fact that the earth is inhabited that other orbs must be, any more than we conclude that other orbs are not inhabited because we can prove that there are no inhabitants on the moon. It is by fairly acquainting ourselves with the physical conditions of the heavenly bodies, and the accordance of these with the known laws of life, that we may advance. As Mr. Proctor carefully points out, this earth provides us with data indicating, not merely that a world constituted like ours should be inhabited, but also how one entirely unlike ours may be the abode of prolific life. The present condition of the earth is but one of a long series of phases, all of which presented strangely divergent habitudes; and yet each was the abode of luxuriant life. In the course of unmeasured ages, the earth has been the subject of changes, cosmical, geological and vital, to an extent we fail to estimate; and for the purposes of our author's argument, each distinctively marked geological epoch is, in relation to the life it sustained, *another world.* The Laurentian epoch, with its primordial and solitary *Eozoon Canadense* and indications of a marine fauna, presented life-conditions incomparable with those of the carboniferous period, when living forms reached a plethoric and gorgon-like luxuriance. But in both life was found. Thus we see that life is everywhere within the reach of our ken a concomitant of the conditions that render it possible, and that habitudes far other than those which surround us may be compatible with the existence of highly organized beings.

The same lesson is taught by the present condition of the globe.* From the equator to the poles — from torrid heat to perennial ice — life is everywhere. Nay, man himself is found and flourishes. Yet the areas over which the distinctive races range are boldly marked. The walrus would speedily perish in the China seas. The gorillas of mid-Africa would be no match for the conditions that would meet them in the climate of even Southern Europe. The superb flora and fauna of Borneo and Sumatra would succumb at once in the climate of Britain. Hence, the same conditions which produce death in one form of organized beings make life a luxury to another. A colony of negroes would certainly not survive for many generations in Greenland; yet human beings live and flourish amid its boreal wastes. But if this were not known; if the inhabitants of the tropics knew only of the polar wilderness of ice and snow, with its strange vicissitudes of climate — if communication between tropic and pole were impossible — these polar solitudes would be considered as uninhabitable as they are drear. From which we may learn, that it does not follow that, because an orb may present conditions unsuitable to terrestrial fauna, therefore it is without inhabitants.

Moreover, the ocean swarms with living forms: place them in air, and they die at once. The terrestrial organism will as quickly die in water; were oceanic life unknown to us, we should deem it impossible. Thus it is manifest that life may exist in conditions not necessarily known to us; provided what are known as the broad essentials of life are found. At the enormous depth in the ocean of 3,875 fathoms, living forms exist,† where the thermometers were crushed to atoms. From other immense abysses highly organized forms have been brought up, whose more delicate parts were bursting when the tremendous pressure of the deep was taken off. Crustacea, whose

* Job xxxviii. 14.

* Other Worlds than Ours, p. 13, *et supra.*
† *Nature*, Vol. VIII., p. 266.

bodies are mere appendages to their highly developed eyes, and others, who, without eyes at all, have exquisite tactile organs, have been taken from these gloomy profounds. In the dense darkness of the Kentucky caves there is a profuse variety of adapted life. In brine of a strength that would kill all other organized beings the brine shrimp flourishes. The "vinegar eel" can adapt itself to strong acetic acid; and the most powerful salts are often the nidus for fungi. A temperature of 300° Fahr. does not destroy all life.* And more recent observation has shown that a temperature of 250° Fahr. will not destroy the germs of the higher monads,† while the water fleas will survive an imbedment for weeks in solid ice. Thus the laws of life operate over an enormous area. Nor should we be peremptory in limiting all forms of intelligence to a man-like form. Instinct, which would seem to be but reason less endowed, is operative in a thousand forms in ocean, earth, and air; and why may not the higher gifts of intellect be dimly reflected in the heritage of a creature flying in an atmosphere, or living in a sea?

In addressing ourselves to a study of the physical condition of surrounding orbs, it is the sun that first arrests us; and from him the most comprehensive lessons have been learned. Until observations of the approaching transit of Venus in 1874 have been made, the solar parallax, as the index of his distance from the earth, cannot be given with the greatest accuracy possible to modern science. There can be but little question, nevertheless, that the distance now tentatively accepted is near the truth. The result of Professor Encke's discussion of the transit of Venus in 1769 was the deduction of 8·5776m. as the result of the sun's equatorial horizontal parallax; giving a solar distance of 95,293,055 miles. More refined recent observations, and a more comprehensive analysis of older, have greatly modified this estimate. Mars at times approaches the earth within forty millions of miles. It is an easier matter at such times to find the parallax of Mars than of the sun. Now, by Kepler's third law, if we know the times of the revolution of the planets, we can deduce their major axes, and therefore their mean distances from the sun. If then the distance of Mars be accurately determined, that of the sun is easily found. In 1862 this principle, both in its original method and as simplified by the astronomer royal, was applied; and a series of meridian observations of Mars were made which have since been reduced by Stone; giving for the sun a distance of 91,400,000 miles. Subsequently the same astronomer re-examined all the recorded observations of the transit of Venus of 1769, and saw that the real times of external and internal contact had been misinterpreted: thus enabling him to deduce the most accurate result possible with present data, which is a distance of 91,730,000 miles. Light which could sweep round the earth eight times in one second, takes eight minutes and a half to travel this distance. Or still further, to aid conception, the rapidity of thought is proverbial, nevertheless it is measurable. In the same way the rapidity with which the tactile nerves convey impressions to the brain appears to be such as to make a puncture in the hand and its impression in the brain simultaneous. Nevertheless a measurable time elapses. Now if we could conceive a limb long enough to extend to the sun from the earth, any cause of pain produced at the solar end of such a limb would take one hundred years in reaching the brain on earth, so vast is the distance.

The diameter of the sun is 853,380 miles. A train which travels the earth's circumference in a month, would require nine years to do so on the sun. Let a cannon-ball represent the earth, and it will take one million four hundred thousand such balls to represent the sun; but it would require only three hundred thousand earths to equal the sun in weight. This gives him an excess of mass over all the known planets of the system taken together of 674 times; and therefore he is the great controlling centre of every attendant world.

The intensity of the solar light cannot be adequately grasped. One hundred and forty-six balls of lime as large as the sun, intensely luminous as the lime-light, would only equal his brilliance; while a calculation of his heat as represented by terrestrial combustion, in a given time, may be computed, but cannot be understood. Of the intense activities thus begotten this earth, despite the enormous energies which animate it, receives but the two hundred and twenty-seven millionth part!

* *Proceedings of the Royal Society*, No. 128. *Monthly Microscopical Journal*, Vol. VI. p. 199.

† *Monthly Microscopical Journal*, August 1st, 1873, p. 57.

Examined by the unaided eye, the sun presents an aspect of uniform and dazzling brilliance; but with the aid of a modern telescope this appearance at once vanishes; a multitude of greater and less brilliant stripes cross each other in every direction, suggesting dazzling meshes seen under constantly varying conditions. On this surface for a more or less definite distance on either side of the equator (about thirty-five degrees), dark, ragged, irregular patches are almost continually seen. They consist of a densely black nucleus, a dark surrounding patch which abruptly changes into a less darkened border. Their aspect is funnel-shaped, giving the idea of great depth. Their size is variable, but often gigantic. An area of twenty-five billion square miles has been measured. These "spots" are not persistent either in duration or shape: some continue for weeks or even months; others rapidly appear and swiftly vanish. Dr. Woolaston with a twelve-inch reflector saw one burst in pieces whilst he examined it; and the bursting "was like that of a piece of ice when dashed on a frozen pond." When therefore the vast dimensions of the phenomena are considered, the intense activity on the solar surface must be inconceivably terrible. They indicate meteorological phenomena on a prodigious scale. It can now no longer be held that the nucleus results from the exposure of the supposed cool surface of the sun. The darkness is only relative. The lime-light projected on the surface of the sun is seen as *a black spot*. Evidence that the spot-nucleus is hotter than the surrounding photosphere can be given; and the spectroscope yields most palpable proof that the darkest portion of the spot is in the same condition as the solar surface, but that its light is absorbed by its passage through dense strata of gases. They are almost certainly apertures through a double layer of differently heated clouds, and as they appear only on two zones of the sun's globe, precisely corresponding to the sub-tropical belts of our earth, the younger Herschel argued that these sun-spots are solar cyclones, and originate in a similar cause. Cyclonic action on earth is in the main caused by the excess of solar heat at the earth's equator. Now as the sun has a considerable atmosphere, centrifugal action consequent on his axial rotation would cause an equatorial accumulation of heated gases, and thus furnish the conditions required. Mr. Proctor points out difficulties here: but is prepared to accept the general analogy between sun-spots and cyclonic storms. A striking confirmation of this hypothesis has been given by the actual observation by Dawes, Secchi, and others of cyclonic motion — vertical action — in the spots themselves.

These phenomena have afforded opportunity for measuring the time of the sun's axial rotation; and it has also been found that the spots have a "proper motion" of their own, dependent on their position on the disc. The nearer the equator the more rapid the motion.

Now it has long been known that there was a variation in the number and size of the spots at different periods: but upon what law this proceeded was unknown. To discover this the renowned Schwabe, of Dessau, set himself; and the result and its issues are important and fascinating in the last degree. He discovered a defined and steady progression from a maximum to a minimum; and it convinced him that the recurrence of spots was periodic. The proof of this required long and laborious observation. "Twelve years he spent to satisfy himself — six more years to satisfy, and still thirteen more to convince mankind." The results of this indomitable and courageous labour, scrutinized by Wolf of Zurich, led to a proof that 11·11 years is occupied in completing a cycle of changes. The spots swell to their highest and largest, and ebb to their fewest and least. Nor was this wave without its vibrations — minor, but marked: these with the highest probability being caused by the attraction of the planets causing tidal action in the envelopes of the sun. A consequence of this great periodic variation of much interest ensues. The periodic variability of stars in magnitude or brilliance has long been known. Their period of variability may range over years in some cases, days in others. Thus, β in Perseus shines as a star of the second magnitude for two days thirteen hours and a half, then with great rapidity loses its light, and in three hours and a half falls to the fourth magnitude; it then increases in brightness, and in three hours and a half attains its wonted brilliance. Now, to observers in other worlds, our sun must be a variable star, having a period of eleven years and a half: indicating unity of condition and structure with the suns far out beyond.

But the most remarkable issue of Schwabe's discovery is the evidence of an intimate relation existing between the

sun's condition and the earth's magnetic state. The wave of increase in the solar spots expresses a wave of increase in the earth's magnetic force. Their maxima coincide; and they decline and reach their minima together. When solar storms are heaviest, terrestrial magnetic excitement is at its highest; and when the solar surface is calm, the vibrations of the magnetic needle are the least.

That there is positive connection between them is now certain. On September 1st, 1859, two English observers of acknowledged competence were, independently and at different stations, watching a fine group of spots; when suddenly two patches of intensely white light burst out in front of the spots. It was for a moment suspected that the screen on the eye-piece had cracked, and that naked sunshine was pouring in: but it was speedily seen that the dazzling spots were traversing the solar disc with a rapidity that carried them 33,700 miles in five minutes. The time of the occurrence was accurately marked; and it was found that at the exact moment of the brilliant outburst, the magnetic instruments at Kew had been violently agitated; and in sixteen hours a powerful magnetic storm had throbbed through the globe. Telegraphic communication was in many places stopped; in Norway a station caught fire; the needle everywhere was disturbed; auroras were seen where they rarely appear; and the whole earth trembled in response to the impetuous and mighty tempest in the sun. Nor could it have stopped here: the giant tidal-wave of magnetic disturbance must have swept onward to each planet in its turn, causing responsive tremors in each, and showing the intense union existing between the sun and the brotherhood of worlds he sways.

But it is from the analysis of light by refraction that our knowledge of solar physics has been so remarkably increased. In the facets of the diamond and in the rainbow, men have seen the analysis of light through all the ages of the world; but it is only in little more than the last decade of years that its real value has been seen. Light travels in straight lines to indefinite distances at the rate of one hundred and eighty-six thousand miles per second. The philosophy of light as at present understood, is, that the ultimate atoms of a luminous body are in a state of intensely rapid vibration; in other words they have an oscillating motion across a position of equilibrium; this motion is communicated in waves to the ether of space, and these light-waves reaching the retina of the eye — specially susceptible to their influence — produce an impression, when transferred to the brain, which we call light. But a ray of light is not composed of one set of vibrations only; all the colours of the rainbow, from violet to red, are dependent upon the different rates of vibration reaching the eye. The velocity of propagation is the same for all vibrations; but the rates of vibration differ. White is not a simple colour: it is in the highest degree complex, being composed of all the vibrations which produce every separate colour. In fact, a ray of white light is a *bundle of vibrations* of almost infinite variety. The green of the rainbow is not the result of the over-lapping of yellow and blue; it is made up of an innumerable series of *simple colours:* that is to say, of numerically distinct vibrations. So that the whole colour-band of the rainbow is composed of an infinite series of parallel vibrations; each separate vibration having always a fixed relation to the next; but every one of which is, in its effect upon the retina, monochromatic — of one colour. The rainbow-band may be produced at pleasure by means of the prism. It simply opens out its component vibrations — spreads them out like a fan. If a narrow slit in a dark chamber transmits sunlight, and this falls upon a prism, it spreads open the line of light into a band of colour, passing from deep violet to intense red. The reason it does so is, that in the ray of white light — the bundle of differing vibrations, each of which, taken by itself, is a distinct colour — some vibrations are *more readily bent* than others. To prove this, let the light from an electric lamp pass through a small round aperture, covered with a piece of red glass, and be focussed to a point by a lens; it will pass right on in a direct line upon the screen as a red point. Now interpose a prism in its path, and immediately the red circle will be moved perceptibly to the right. If the position of the red spot be marked, and the red glass be replaced by green, the green spot of light will fall still further to the right beyond the place of the red; while with violet light the refraction will be still greater, and the light will be bent still more to the right beyond the green. Thus the vibrations which produce the different colours differ in refrangibility.

Now, in a source of luminosity like

that of the lime-light, the emitted ray is made up of rays of vibration of all degrees of refrangibility; their relative positions are to each other invariable; therefore the prism simply spreads them out, and we get a *continuous band of colour*. But if a ray of sunlight falls through a fine slit upon a prism, and is examined with a suitable telescope, we have the band of colour as before, but "*interrupted*" throughout its length by black lines at right angles to itself. That is to say, colour-vibrations of certain refrangibilities are missing.

Now, every known element in nature — solid, liquid, or gaseous — yields a spectrum distinctively its own. In a solid, a liquid, and a densely gaseous condition, the spectra of all substances are continuous; but luminous vapours and gases not dense behave differently. If the heat of a colourless flame (as a spirit-lamp) be high enough to drive a burning metal off into vapour, and its light be examined with the spectroscope, it is not a band of colour that we see; but in its place a dark band with brilliant lines of colour occupying apparently the positions of some of the black lines on the spectrum of the sun. Thus, if the metal sodium be evaporated in a colourless flame, the spectrum is a dark band with a brilliant yellow line, which by greater dispersion may be opened out into two. That is to say, of the vibrations which make up the colours of the solar spectrum, these two producing this colour belong to sodium, *and to nothing else*. In other words, sodium contributes two bright lines in the yellow, as its quota to the formation of the continuous rainbow-band. It is thus with others: thallium yields one bright green line; potassium gives two in the red and another in the violet: and so with all the elements. In the vaporous or gaseous condition they yield bright lines on a dark band, and these lines *never alter their relative positions*.

It soon became easy to perceive that the terrestrial elements yielded exactly the lines of *light* that were wanting or *dark* in the solar spectrum. This was proved (1) by an ingenious mode of "mopping" the lines, and (2) by a mechanical arrangement by which solar and terrestrial spectra could be seen together in the same field, one placed above and contiguous with the other. It was then finally proved that those parts of the continuous spectrum which are *wanting* in the colour-band of sunlight were in exactly the same position as the brilliant lines of certain vaporized terrestrial metals. Now, as early as 1853, it had been discovered that the rays of light which a substance *emits* when self-luminous are precisely those which it absorbs. If we have a flame in which sodium is burning and yielding its characteristic lines of light to the spectroscope, and then cause the light of the electric-lamp to *pass through* this on its way to the same prism, we shall have, not the mere bright lines of sodium, nor the continuous colour-band of the electric light; but the latter, with two *dark lines* exactly where the sodium lines *had* been. Thus the vapour of sodium in the flame has absorbed the vibrations that produce its light in the spectrum. We may take the sodium vapour in the flame away; the band of colour becomes perfectly continuous: replace it, and the light of sodium is again absorbed. This at once accounts for the presence of *dark lines* in the spectrum of the sun. It proves that the vibrations whose *position* they represent have been *absorbed* on their way to the earth by passing through the *gases* of the incandescent elements that produce them. Therefore *terrestrial elements are burning in the sun*, and their nature can be demonstrated by the absence of their light in the sun's spectrum.

Continuous spectral research has established: (1) That solids and liquids and gases, when extremely dense, yield continuous spectra; (2) a glowing vapour yields a spectrum of bright lines, in every case distinctive; and (3) an incandescent solid, liquid, or densely gaseous body, shining through their own vapours, give rainbow-tinted spectra crossed by dark lines which coincide in position with those lines which the vapours taken alone would yield.

It follows, then, that our great luminary is an incandescent solid, liquid, or densely gaseous body, whose light passes through a cooler gaseous envelope, producing the absorption-lines which prove the presence of burning iron, calcium, lead, mercury, sodium, barium, magnesium, gold, hydrogen, etc., in his glowing mass. And the certainty of the truth of this is so absolute that in relation to the presence of iron alone the chances of error are as 1 to 1,152,930,000,000,000,000.

There is, then, an absolute similarity of substance between the sun and the earth; and this by sound analogy suggests a likeness in all the orbs that com-

pose the system. If the sun had displayed a chemical composition wholly unlike ours, it would have been mere bootless speculation to suppose that Mercury or Mars had a structure similar to our earth; but, with a demonstrated identity between the elements of the central orb and the earth, we may fairly infer an approximate similarity in every dependent planet of the system. On the earth iron and gold are applied by an intellectual being to a thousand useful purposes, and contribute to a refined and exalted civilization; and are we not led to ask what other purpose can they be meant ultimately to serve in Venus or in Jupiter?

But to continue. It will be manifest from the above considerations that the sun must possess a luminous atmosphere; and that if this could be seen *without* the light of the incandescent orb shining through it, we should not see the dark lines of the ordinary solar band, but in their places a rainbow-tinted series of bright lines belonging to all the gaseous elements of which that atmosphere is composed. This is precisely what has occurred. At the eclipse of 1870, Professor Young so placed his spectroscope as to catch the thin line of light immediately before obscuration: the ordinary band grew paler and paler until, at the moment of eclipse and a second or two later, the field was filled with *bright* lines, occupying exactly the spaces of the dark lines of the ordinary band. So that the solar atmosphere, which had been before inferred, is now a demonstrated fact.

When the sun is totally eclipsed it has long been known that brilliant red protuberances bead the black edge of the moon, and that beyond her disc, for enormous distances, a brilliant silvery haze, dimming gradually with increasing distance, is ever present. The real nature of these was entirely unknown; and, strange as it now appears, we are but just clear of the din of a contention that the latter — the "corona" — was an atmospheric effect!

It was to discover the true nature of these phenomena that expeditions from almost every civilized people have been equipped to observe with the aid of modern instruments recent eclipses. The results are of the profoundest importance. A spectroscopic analysis of the solar prominences gives with great brilliance the characteristic lines of hydrogen, and proves them to be up-rushing masses of the gas in flames. For an average depth of from five thousand to seven thousand miles from the sun's edge it envelopes his globe as a seething mass, called the *sierra*, while the "prominences" proper are gigantic local accumulations of the same matter impelled outwards in volumes of erupted flame. The rare occasions on which suitable eclipses occur, and the attendant difficulties, seem to make an exhaustive study of this wonderful phenomenon impossible; or, at least, to relegate it to a distant future. But the brilliant ingenuity, first of an English astronomer, Mr. Lockyer, and next, and independently, of a French *savant*, M. Janssen, devised a plan by which these prominences might be completely studied in broad sunlight. The overwhelming brilliance of the solar light would, of course, wholly drown the comparatively dim light of the flaming hydrogen. But it will be remembered that the prism *spreads out* the continuous spectrum of an incandescent body. Every additional prism increases this expansion, which is called "dispersion." From the nature of the case, as the spectrum is spread more and more it becomes increasingly *dim*, until by a sufficient augmentation of prisms it can be rendered almost imperceptible. It will also be remembered that a glowing vapour does not give a band of colour; it yields instead one or more lines of light. The result is that whilst an increase of prism-power attenuates almost to extinction the rainbow-band, it merely bends more completely and separates more widely from each other the *lines* of a gas. Their luminous tints remain nearly as brilliant as before. Hence, by attenuating sunlight by a long train of prisms, the lines of a hydrogen prominence would be visible. These phenomena could thus be studied daily; and it was soon found that by widening the slit of the spectroscope through which the prominence-light entered, with suitable arrangements, the entire rolling, twisting, seething mass of flaming gas could be seen as perfectly as the flames which issue from the furnace of a smelting-house can be seen in the gloaming. The magnificence of the phenomena cannot be conceived; the rapidity of change, the grace of form, and the brilliance of colour, coupled with overwhelming consciousness of the awful activities represented, can be understood only by the observer.

By a process which we shall have subsequently to describe, the rate of the mo-

tion of these solar gas streams has been accurately measured, and it was found necessary to divide them into "jets" and "plumes." The "jets" are eruptive, the "plumes" are not; while the jets are more luminous at their roots than the surrounding solar surface — they contain other matter beside hydrogen — and are limited to the region of the spots. The plumes disturb merely the chromatic sierra; but the photosphere is lifted up in the emission of the jets. On Sept. 7, 1871, Prof. Young observed a massive cloud of hydrogen on the sun's edge. It was one hundred thousand miles long, and its upper surface fifty thousand miles from the solar surface. It was supported on pillars of blazing hydrogen. It gave evidence of intense action; but he was compelled to leave it for half an hour. On his return he saw that "the whole thing had been literally blown to shreds by some inconceivable uprush from beneath; . . . in place of the quiet cloud" the whole region "was filled with flying *débris*," some of which had already reached one hundred thousand miles of distance; in ten minutes the uppermost area was two hundred thousand miles from the sun, or, by taking an average of several measurements, 210,000 miles.

If we now turn to the results of spectroscopical researches on the corona, we find that, both at the portion which is brightest and nearest the sun, and at the part most distant and attenuated, the coronal spectrum yields certain *bright lines* upon a faint continuous band. The inference is that the coronal matter — now finally proved by polariscope, photograph, and spectral investigation to be solar in its origin — faintly reflects solar light; thus giving the pale rainbow-band (in which Janssen has seen the dark lines), and also, that by electrical influence, or the action of heat, or both these combined, it yields a bright-line spectrum distinctly its own. Now it is remarkable that this spectrum in a most important particular is the same as that yielded by the zodiacal light and aurora; and this seems to complicate the question, "What is the corona?" The corona has been photographed, and one striking result of this has been the proof of a relation between the prominences and the corona. Where the eruptive matter extends the furthest, there the corona goes deepest into space; and where the gaseous action is least marked, there the coronal extension is the least. A large group of prominences involves an immense bulging-out of the corona. Mr. Proctor has shown with great clearness that the initial velocity of the erupted matter which is driven out with the hydrogen "jets," is enough to carry it wholly away from the sun's controlling influence, and therefore very moderate assumptions are required in order to prove that the smallest of the jets possesses a velocity of ejection competent to carry the burning metallic vapours beyond the outmost observed limits of the corona. With the highest probability, therefore, the corona is meteoric matter ejected from the sun. The zodiacal light and aurora are the same, the latter under especial electrical conditions: they are indeed the disintegrated atoms of meteoric matter scattered in the air, rendered visible by electricity. This has recently received peculiar confirmation. Minute granules of iron — evidently meteoric — have been found in freshly-fallen snow; while polariscopic observations require that both corona and zodiacal light should be composed of minute metalic crystals; and Leverrier, by mathematical calculation, and Baxendell by variations in the earth's magnetism, show that there exists in the neighbourhood of the sun a mass of moving bodies.

Now the periodic recurrence of meteor-streams in our own heavens has led to a demonstration of the existence and discovery of the elements of at least two meteor-orbits: these orbits cut the earth's path, so that in August and November the earth *passes through* the meteor-dust, which, as it is unevenly distributed over the orbit, presents a greater depth at one time than at another for the earth's encounter; and therefore a periodic recurrence of more brilliant streams.

Further, it is known that the number of meteor-systems within the solar domain is inconceivably great, and that the inter-Mercurial space must absolutely swarm with them. It has been calculated on very moderate assumptions that, in the course of twenty-four hours, not less than four hundred millions of meteors which the telescope could detect are consumed in the earth's atmosphere or fall to the earth. Are these, then, matters of disruption from our own sun and other stars? It is extremely probable. A microscopical examination of meteoric stones shows that the material composing them had been vaporized under tremendous pressure. This cannot be adequately explained by the influence of

collision, friction, atmospheric resistance, &c. "But," as Mr. Proctor says, "if meteors had their birth in far-off suns," if they are the result of disruption under incalculable pressures of ejection, then their microscopical condition is explained. It has been shown also by modern chemists that meteors ejected thus in such intimate association with hydrogen should show a high percentage of that substance in their composition. Professor Graham found on analysis that meteoric iron gives up without exhaustion three times more hydrogen than malleable iron can be made to absorb; whence he infers "that the meteorite has been extruded from a dense mass of hydrogen gas," and may *be looked upon as holding imprisoned within it, and bearing to us, the hydrogen of the stars.*

The corona, then, is erupted solar matter and meteor systems — reflecting dimly solar light, and yielding a light of their own; and with this the zodiacal light and aurora are intimately associated.

But more: the sun with all his planets is speeding through space towards the region between Hercules and Lyra at the rate of one hundred and fifty millions of miles per year. It is now proved beyond doubt by the spectroscope that the vast vacuities of space are peopled with *gaseous nebulæ* — mere unformed cosmical matter — greatly attenuated, and also speeding through the trackless realms of space. It has been shown by Kirkwood that the sun in his immense journey through space must encounter such cosmical matter, which by his attraction would be reduced to a cometic condition and brought under his rule either temporarily, or, if subdued into an elliptical orbit, made a permanent member of the solar system. But Schiaparelli has shown in a most striking manner that a comet, not being solid, but consisting of minute particles, each possessing an independent motion, the nucleus must complete its revolution in less time than the tail; and the lagging of the tail will eventually *reduce it to a meteor-stream*, which will be scattered in various quantities all over the path. Thus he has identified *comets and meteors*, and has proved that the comet of 1862 is no other than the *remains* of the comet out of which the meteoric ring, from which our August meteors came, was formed.

Now when all the gigantic activities of the sun are taken into account — his intense heat, his probably fluid or densely gaseous condition, his awful cyclones of blazing vapours, and his terrific eruptions — the supposition that he is inhabited cannot be entertained. None of the conditions essential to life are found, and the supposition of a cool ball within with a non-conducting envelope must now be forever abandoned. Then what *is* the sun in the great brotherhood of worlds? The great fountain out of which all vitality springs. The source of every energy throughout the system. Not himself inhabited, he pours himself out to render habitable his dependent worlds. The law of equivalence proves that the energies we receive from the sun must be inevitably at the cost of his own substance. A solar ray is a bundle of energies for which an equivalent volume of matter has changed form in the sun. The solar energies of the past are stored up in the planets. Coal is fixed sunshine. Every cubic foot of coal involved the expenditure of a fixed measure of sunshine. We subject it to combustion, and get back the sunbeam again: light, heat, electricity. Then is the sun burning out? Every hour he is being consumed, and therefore he must be constantly resupplied with the materials for producing energies. What are these? Helmholtz and others have shown that a certain measure of *contraction* detected only over long periods would suffice to produce the needful increments of heat. But it is certain that there are batteries of meteors streaming in upon the sun dwarfing to the merest fraction what the earth receives; and these by impact and percussion help to produce the heat required. Perhaps both sources are in operation, and thus the decrement of contraction is in a measure compensated by the increment of meteoric masses. While as he sweeps on through space he presses into his service the gaseous nebulæ — the idle cosmical matters that wander in his path — reducing them at length into sources of supply to compensate for his exhaustive beneficence to his dependent worlds.

In stretching outward from the sun, our first definite pause must be at Mercury. But most perplexing statements and facts present themselves as to the existence of a planet revolving still nearer to the sun. Leverrier, from theoretical considerations based upon an unexplained motion in the major axis of the orbit of Mercury, inferred that the mass of Venus must be one-tenth greater than was admitted, or else that there must exist some undiscovered planet between Mer-

cury and the sun. From many reliable sources observations have been reported of a sharp round shadow moving rapidly across the solar disc, entirely distinct from a "spot," and from these the elements of the supposed planet have been calculated. The last occasion was by Mr. Hind; and in Oct. 1872 he suggested that on the 24th of the following March a scrutiny of the sun's disc should be made, as he inferred for the hypothetical planet a conjunction with the sun at about 10 A.M. Nothing, however, was seen by European or American observers; but from Shanghai a telegram was received to the effect that a circular black spot was seen on the sun at 9 A.M. of the day named. Not much reliance can be placed on this, and this planet has still a mathematical rather than an observed existence.

The two planets, Mercury and Venus, revolving within the orbit of the earth, present, from their nearness to the sun, great difficulty in the study of their physical habitudes. The result is that important questions touching their climatical condition are still unsolved. The eccentricity of Mercury's orbit is exceptionally large. Between his greatest distance from and his nearest approach to the sun there is a difference of over fourteen millions of miles. As a result, he receives ten times more light and heat in one part of his orbit than we do; while in the opposite position this is reduced by more than half, the mean intensity being over seven times that received by us. His diameter is a little over three thousand miles; his surface being six and a half times less than that of the earth. Seventeen such globes would be required to equal the earth's volume. Dawes thought he could detect a polar flattening equal to 1-29th. We know of no satellite to Mercury; and this, and his relative smallness as compared with Venus, makes an exact estimate of his weight almost impossible. But the mass of Encke's comet as compared with the sun has been approximated; and the disturbing effects of Mercury on its orbit have formed a basis of estimate. From this it is found that his mass is 1-15th that of the earth, and gravity at his surface would reduce a terrestrial pound to seven ounces. The axial rotation of this planet is certain; but the time of this rotation as given by Schröter, 24h. 5m. 48s., has not been subsequently proved or refuted. This arises from the extreme difficulty of observing the planet's face; and from the same cause the true inclination of the axis of rotation remains undecided. Schröter believed he had found it to be very great by observing some dark bands — assumed to be equatorial — on the disc. No reliance is now placed on this. Of course such an inclination would materially affect the nature of the seasons, causing awful contrasts of light and darkness, heat and frost. The length of the Mercurial year is only eighty-eight of our days, and during that period all vicissitudes of temperature ensue. Now if the axis of Mercury be permanently placed to its orbit as that of the earth is at the vernal equinox, his oscillation between his most distant and nearest approach to the sun would secure diversity of season far more defined than in some portions of the earth. At the poles the sun would be slightly elevated, that elevation gradually increasing until we reach the flaming and unendurable temperature of the equatorial zone. That this is the position of Mercury's axis has at least as high a probability as any other, and with such conditions the habitability of the planet by beings resembling ourselves has no possible contradiction from modern science. The equatorial and subequatorial belts, it is true, could not be inhabited without special provision; but their non-habitability may be easily conceived, as there would be no polar wastes, no deserts of ice and boreal barrenness. For Mercury has a dense, and perhaps a deep atmosphere; and, on principles enunciated by modern physics, the regions corresponding to the temperate and polar zones on earth might become delightful abodes. An adapted flora and fauna resembling our own might exist; and, as the planets are one in structure with the sun, and the same electric and magnetic union characterizes the whole system, we may safely infer that the same resources are at the disposal of ingenuity and intelligence on Mercury as on earth. The probability of the existence of the metallic elements, as iron, in all the planets is as hundreds of millions to one, while the enormous expenditure of solar energy in the past suggests, on the minor planets at least, the presence of coal or an equivalent. Similar magnetic currents sweep through this orb as through the earth, the same solar activities exist, and when the diminished gravity at his surface is considered, the ease with which gigantic structures may be produced, the consequent facilities for rapid transit, and the smaller area for

travel, a conviction is established that this planet is the dwelling of beings capable of utilizing and enjoying the bounties with which the Almighty has endowed it.

In Venus the problem is not greatly diversified. In position, in size, in density, in her seasonal characteristics, her period of axial rotation, and the shape of her orbit, she comes strikingly near to the earth. From the careful estimates of Stone, the diameter of this beautiful orb is 7,510 miles. She has no moon; but she needs none, for the sun would lift her tides. Her intense brilliancy, dependent on her nearness to the sun, renders the examination of her surface almost impossible; but both this planet and Mercury present all the phases of our moon, and consequently surface contour may be much more readily considered. Her *apparent* size greatly varies. When she is on the other side of the sun, she is one hundred and fifty millions of miles from us; but when she is *between* the sun and the earth, her distance is only twenty-five millions of miles. In the former case we see her "full," in the latter "horned." Now, if the planet's surface were even, the line of light separating the crescent from the body would be regular. This is not so, however, and the inequality of her surface is certain; indeed, the existence of extremely high mountains is proved. There are permanent spots upon her disc, and from these a rotation-period of 23h. 21m. 24s. has been discovered; with a year of about 230 days. The existence of an atmosphere on Venus is proved, and that it is one of far greater extent than ours. Secchi, from observing certain absorption-lines in the spectrum of this planet, has proved the presence of aqueous vapour in its air, and the strong development of the nitrogen lines in its spectrum argues a similar atmospheric structure to our own.

But here, as in the previous case, there is uncertainty as to the axial slope, and on this the planet's habitability must turn. Certain observers have given it a great inclination, but on insufficient grounds. There is no certainty in the case, and an axis perpendicular to the plane of its orbit, or an inclination like that of the earth, would, with compensating relations known by modern science to be possible, make it a suitable home for beings like ourselves. The accession of heat in Venus above that of the earth may be tempered by means known to us, and what is common to the earth and the sun would be shared by this planet, with similar incentives to intellectual activity. The skies of Venus, though moonless, must be at once imposing and beautiful. Mercury and the earth would have great splendour, and the rapid and clearly visible motions of our moon must from the first, to the inhabitants of Venus, have aroused an interest in celestial phenomena: indeed there is nothing in modern science to render it improbable even that the dwellers in this planet have gold for their bullion and astronomy for their noblest science.

On reaching Luna, the satellite of the earth, the question becomes one of most fascinating interest. Her distance from us is in comparison merely trifling, being little more than nine times the equatorial circumference of the earth, a distance which many a lifetime of voyage and travel has more than equalled, and which is such that the highest powers of our modern instruments bring us theoretically within forty miles of the lunar surface. Small as the distance seems, it precludes a complete examination of minutiæ. The unaided eye can grasp but little actual detail at this distance.

"Roughly we may take the moon's diameter as 2-7 of the earth's, her surface at 2-27, her volume at 2-99."* So that the whole area of the lunar surface is about equal to the area of Europe and Africa together. From the nature of her motion little more than half of this is ever visible to us. Even to the naked eye the diversified condition of her surface is manifest; but when a poweful telescope aids research, the surface presents appearances unparalleled, so far as we know, in the system of which it is a part. To convey a clear view of it in words is almost impossible. Fortunately photography comes to our aid, and to those to whom a good telescope is inaccessible we commend the exquisite photographs which illustrate Mr. Proctor's "Moon." They show us with wonderful clearness the hugh mountain ranges, the vast crateriform abysses, with their smooth floors and frequent central cones, the enormous rugged battlemented plains, and the immense crater and hemispherical pits. They display, as words could not do, the radiating bands and the great "rilles" visible when the moon is full, and the vast dark areas, taken

* The Moon, p. 31.

first for seas, then for sea-beds, with their oceans gone, and now by some for vast plains. The eminently volcanic nature of much of this is clear beyond question. The great crater Copernicus, for example, gives abundant evidence of disruption. The floor is strewn with rugged masses, and the outer walls with lesser craters, while huge cracks and channels break the surrounding surface. The crater-floor is over eleven thousand feet from the crown of its mountain-wall, and is nearly nine thousand feet below the general surface of the moon.

In all this weird and arid desolation not a trace of atmosphere is to be found. Planets far beyond have exhibited proofs of an atmosphere to telescope and spectroscope which the physicist cannot mistake. But the most refined scrutiny of the lunar edge affords no trace of air. There are no seas; for the scorching heat of the lunar day, without a gaseous envelope, would *boil* the waters, and raise masses of vapour which the spectroscope must detect. There are no seasons, and the day and night are each a fortnight long. The incessant downpour of solar heat for fourteen days would raise the temperature of the moon's crust far above our boiling point, whilst the fourteen days of the lunar night would bring it to a frigid state compared to which our frozen regions would be tropics. There can be no diffusion of light, so that the splendid astral phenomena of her skies would be visible equally in the noon of the lunar day and in the noon of her night. The scrutiny of her surface yields no evidences of change that cannot be subjectively explained. The whole satellite is still and waste; life, as we know it, could not exist there. Its airless, sealess deserts, exposed to such terrible vicissitudes, could afford no shelter for a flora and a fauna like our own. What, then, is its meaning? As a mere tide-lifter and transient torch for this earth, it would represent a waste of energy inconsistent with the issue, and at variance with all our knowledge. Has it, then, existed from the first in this condition? or is its present state the result of slow and mighty changes? Mr. Proctor enunciates a theory of the origin of the solar system which depends on the "gathering of matter together from outer space rather than to the contraction of a rotating nebulous mass:" a theory that, to our mind as well as to his, explains much that the nebular hypothesis of Laplace leaves unexplained. On this hypothesis the original heat of the lunar mass was generated by the impact of enormous aggregations of meteoric matter. Countless streams of meteors fell upon her, and her rotation-period slowly diminished until it nearly reached its present value, and the earth's attraction completed the work. She gradually cooled, and the "plash of meteoric rain" on her plastic surface might produce the abundant *lesser* craters of her surface. But such vast crateriform masses as Copernicus cannot be thus explained; and Mr. Proctor employs the theory of Mallet concerning the origin of terrestrial volcanoes to explain these. It assumes that there is a hotter nucleus than the outer crust, although it is not a molten one. It consequently contracts more rapidly; as a result of this a cavity ensues between the nucleus and the crust; but this is not the case, for the crust breaks down and follows the shrinking nucleus, and the work done is changed by the law of equivalence into *heat* resulting in a molten, mass to which, on water finding access, steam at enormous pressure is generated, and a volcano is the result. With his usual frankness, Mr. Proctor admits that this involves the presence of water, and certainly it must have extended over large areas; so that even by this theory the present condition of the moon is not of necessity the primal one. It appears from terrestrial analogy that water is an essential to volcanic action; perhaps the same may be said of air. While the evidence of glacial action on the moon, as held by Professor Frankland to be shown in the presence of at least two terminal moraines, although tests of extreme delicacy, must have their due weight, the existence of oceans would have involved tidal action, which has the effect of a break on a wheel, and must in the course of ages have diminished the rotation-period of the moon to the state in which we see it. In answer to the question, "What has become of her air and ocean?" it must be remembered that the intense volcanic action manifest in the moon must have consumed enormous quantities of water by hydration, or crystalization; probably enough to account for the entire absence of water. But if the primal temperature of the earth and the moon were equal, the moon must cool more rapidly in proportion to its mass. This would be accompanied by vast contraction, and a cavernous interior would ensue. Fissures would open this to the surface, and the

fluid and gaseous envelopes would desert the surface and fly into the centre. Granting that water ever existed on the moon, which seems inevitable, then this theory of Frankland's is, we believe, beyond all others competent to explain its present condition.

Thus then the moon, though now an arid and almost certainly a lifeless desolation, may once have formed a home for bright and happy intelligences, with abounding forms of life; but for the present æon at least, in this respect, her work is done; she has accomplished her mission and is dead. Nor is this without strong support, in the fact that Adams has shown that the result of the moon's attraction on our oceans produces a brake-action on the earth, retarding her rotation, so that in a vast, though calculable period, she too will present but one face to her primary, making her year and her day identical. While by the constant radiation of her heat she must become slowly colder, and, as the result of consequent contraction and fissure, her fluid and gaseous envelopes must retreat into the bowels of a dead world, thus repeating the history of the moon.

On turning to the planet Mars we discover a most striking coincidence with the physical condition of the earth. The orbit of this planet is eccentric. At his greatest distance from the sun he is over one hundred and fifty-two millions of miles away; but when Mars and the earth are both on one side of the sun, they may approach each other within forty millions of miles. His globe has a diameter of about five thousand miles — less than the earth in the proportion of five to eight; so that the earth's area is two and a half times greater than that of Mars. Gravity at his surface reduces a terrestrial pound to a little over six ounces. The amount of light and heat he receives is on the average less than we receive in the proportion of four to nine; but the maintenance of a temperature equal to ours could easily be accomplished. He completes the circuit of his orbit in 687 of our days, and rotates upon his axis in 24h. 37m. 22s. His axial inclination approximates closely to that of the earth; he therefore has seasonal changes that resemble ours; but in length they are more unequal in relation to each other, and of nearly double the duration. As with the earth, the summer in the northern hemisphere occurs when Mars is furthest from the sun. No satellite has been discovered; yet a small one may exist, for one as relatively small as Jupiter's second is to him would probably elude our best instruments.

A careful inquiry into this planet's condition proves clearly a separation into land and water. The markings on his surface are as permanent as the craters of the moon. Dawes, whose observing power was unsurpassed, says: "The disc, when well seen, is usually mapped out in a way which gives at once the impression of land and water; the bright part is orange . . . the darker parts are of a dull greenish grey, possessing the aspect of a fluid absorbent of the solar rays." Twenty-seven drawings of this planet, made by Dawes, have been compared and arranged by Proctor; and a chart of the Martial orb has been made so perfect, that its oceans, its continents, its islands, isthmuses, and straits are seen with the utmost precision. Mr. Proctor points out how a voyager might visit almost every quarter of this globe by sea, travelling "upwards of thirty thousand miles, always in sight of land, and generally with land in view on both sides."* Hence the disposition of land and water differs from the earth. About 3-10 of the earth's area is land, the remainder is water. But on Mars there is little disparity, and the relations of land and water are most complex. Without a satellite the tides in Mars would be slight; but Mr. Proctor suggests that the moderate quantity of water may make evaporation and downfall a sufficient source of action. But the most striking feature on the Martial orb is that at its *poles* there are *caps of snow*, exactly as on earth. In winter these snow areas extend 45° from the pole, corresponding with terrestrial tracks in the north; while in the summer the cap of snow and ice is reduced to 8° or 10° from the pole. And its gradual expansion or diminution is observed to be in exact accordance with the advance or decline of winter. Nor is this all; huge masses of vapour can be seen to glide over the Martial continents and seas. Messrs. Lockyer and Dawes saw, independently of each other, the clearing-up of a dark and cloudy day on Mars. And the same has been seen by Secchi and others. The winter half of the planet is always (as on earth) the most enveloped in cloud; and, as on earth, a cloudy morning may at noon clear into a brilliant day, so it has been found in Mars. The

* The Orbs Around Us, p. 16.

edge of the planet too has an intenser whiteness than the rest; and these are the parts where it is morning and evening; times when clouds — which brilliantly reflect sunlight — most accumulate. From all this the presence of water is inevitable; and therefore, by solar action, comes aqueous vapour, wreathing it into clouds, and forming fogs and dews; while varying conditions of air cause the clouds to pour down rain, which, besides fertilizing the Martial continents, gathers into rills, and rivulets, and streams, and rivers, and presents a landscape like our own; while

The snowy poles of moonless Mars

show that the same conditions of temperature prevail; that the same vapours exist; and their rapid motion from place to place proves aërial currents, cleansing the atmosphere, distributing its accumulations, and aiding navigation. The truth of much of this the spectroscope has proved. In 1860 it was found by English physicists that the vapours in the air at sunset yielded certain dark lines; and so at sunrise. In England one of these lines, at least, is never absent during winter. In 1864, Janssen proved that they were due to vapours of water. He passed the light of a flame, which gave a continuous spectrum, *through a cylinder of steam;* and the identical absorption-lines were seen. Huggins has proved that these lines belong to the atmosphere of Mars; and therefore the presence of the water and its vapour is demonstrated in the ruddy planet; while the composition of his atmosphere itself seems to be similar to our own. Therefore, as Mr. Proctor has shown, all the meteorological phenomena we have referred to must exist.

Can we then conceive that this is a "vain" creation? Do all the conditions which make the earth habitable exist in Mars to no purpose? Can we think other than that its ruddy soil, enriched by rain, and dew, and air, yields a varied and beautiful flora, and that this aids in supporting a fauna which may exist in ocean, earth, and air; and that the whole is crowned and governed by an adapted intelligence, which controls, utilizes, and rejoices in the whole? The probabilities in its favour are almost infinite.

But at this point a new aspect of the question presents itself. New conditions appear: and here Mr. Proctor's brilliant power of correlating facts is seen; for to him we are largely indebted for an indication of the meaning of recent discoveries concerning Jupiter and Saturn.

In the study of these orbs, distances and proportions inconceivably immense present themselves. Jupiter wheels round the sun at a distance of more than four hundred and seventy-five millions of miles — five times and a fifth greater than the distance of the earth. And yet, at a distance beyond Jupiter, four times greater than the earth's distance from the sun, rolls the gorgeous Saturn in his prodigious orbit. These are measurements we cannot comprehend; and at the outset, they give a solitary grandeur to these planets. The volume of Jupiter is over twelve hundred times that of the earth; but his density is nearly the same as the sun, being less than a fourth of our own planet; while gravity at his surface is such that a terrestrial ton would become two tons and a half. This gigantic globe, which exceeds the combined weight of all the other planets of the system two and a half times, rotates on its axis in rather less than ten hours; so that a particle at its equator is carried round at the rate of 467 miles per minute. Hence, by centrifugal action, the flattening at the poles is marked. His axis is nearly perpendicular to his orbit; he is therefore without seasons, having the conditions of perpetual spring; while he only completes his orbital journey in nearly twelve years, and is accompanied in his course by four satellites.

The globe of Saturn exceeds the earth in volume seven hundred times. His axial rotation is swifter than Jupiter's, occupying but nine hours and a half. His density is not much greater than half that of Jupiter — very little greater than the density of sulphuric ether. His axis is inclined 28 1-2° to the plane of his orbit, which it takes him and his eight attendant moons, nearly thirty years to travel.

It is well known that Saturn is distinguished from every known planet by the possession of a gigantic system of rings. They are flat and relatively extremely thin; the outer portion very bright with reflected sunlight; the middle more so; but the innermost is a dusky purple, and differs from the rest in being transparent. It may now be considered proved that the rings, although continuous in appearance from their enormous distance, consist of flights of minute bodies — satellites — each travelling in its own orbit round the planet, and that in the

transparent part these bodies are more sparsely scattered, permitting the dark sky and the globe of the planet to be seen through the interspaces.

Both Jupiter and Saturn are alike in the possession of a series of belts or zones encircling their orbs. Their existence has long been known, but the use of large and exquisite reflectors has shown that these bands are coloured. The equatorial belt has usually a pearly whiteness; on either side there are two broad belts of a faint ruddy tinge, sometimes merging into purple; there may follow alternate streaks of yellowish white and pale brown, or even a faint purple, and at the poles a bluish or a greenish grey.

It was common until recently to regard the equatorial zone as equivalent to the terrestrial "zone of calms," and to suppose it produced by like means. But Mr. Proctor shows clearly that the assumption of a phenomenon in these planets equivalent to terrestrial "trades" and "counter-trades," will in no sense account for the facts. The equatorial belts in Jupiter and Saturn have a fixed position, but the zone of calms on earth has not; it fluctuates with the earth's changing position in relation to the sun, being drawn to the tropics at midsummer and mid-winter. Further, the whole group of bands is extremely variable in shape, extent, and colour. Sometimes they are regularly stratified, at other times they are scattered without design, as though under the influence of some enormous activity. In the course of three hours, with an 8-inch reflector, we have observed marked mutation — new masses gathering up and old masses disappearing. In the early part of 1860, across a zone of clouds a dusky streak was observed on Jupiter about ten thousand miles long and five hundred miles broad. It was almost certainly a rift in the cloud-mass. It remained for one hundred days — a thing inconceivable with clouds such as ours — and then increased until it stretched across the whole face of the planet; and its progression was at the rate of 151 miles an hour. Colour-changes of an intensely striking nature constantly occur. Jupiter's equatorial belt, which occupies 1-5 of the whole surface of the planet, changed in less than six months from nearly white to ochreish yellow, and for the past three years has displayed remarkable mutations of tint. The same is more or less true of the entire surface of the planet.

It becomes manifest, then, that such tremendous activities cannot be due to solar influence when the vast distances of these huge orbs are considered, when we remember the stupendous masses of matter that are changed in place and molecular condition, and contemplate the astounding rapidity of their motions. No one competent to judge can question Mr. Proctor's inferences that from these data alone we must conclude that some mighty forces are at work in these planets themselves. Jupiter receives but 1-25 and Saturn but the 1-91 part of the heat and light which we receive from the sun. It is not difficult to see how this might be compensated so as to make the planets habitable; but there could be no compensation for the loss of *working power* in the solar rays. And yet we have to account for activities on these globes as much vaster than terrestrial ones as these planets are vaster than the earth. Clearly therefore there must be some internal source of power to which these intense activities must be attributed.

But still more striking proof presents itself. Actual changes in the *form* of these planets have been detected, suggesting powerful convulsive action. A flattening of Jupiter's outline has been more than once seen by skilled observers; but in 1828 Smyth, Pearson, and Maclear, each at different stations, saw the second satellite transit the planet; and after having been watched until it disappeared on the body of Jupiter, and some thirteen minutes had elapsed, Smyth says, "To my astonishment I perceived *the same satellite outside the disc.* It remained distinctly visible for at least four minutes, and then suddenly vanished." Hitherto this phenomenon has been simply inexplicable; but Mr. Proctor, with his accustomed penetration, sees in it an evidence of intense internal action in the planet, believing that it can be easily and readily accounted for by a sudden change in the planet's form.

But this phenomenon has been observed with still greater precision in Saturn. Sir W. Herschel saw this planet when its globe, instead of its normal oval, had taken a quadrangular shape! and this continued with every variety of telescope employed, with low powers or with high. On August 5th,

1803, Schröter saw Saturn's globe distorted. Kitchener has observed the exact distortion observed by Herschel, and similar alterations of figure have been seen by Airy and by Bond. To less acute minds than Mr. Proctor's it must be manifest that this must be the result of stupendous activities on these globes themselves. What, then, are these self-possessed energies? Two facts at least appear to point with great clearness to the answer. First, both Jupiter and Saturn reflect immensely more *light* in proportion than the other planets. The moon sends back less than 1-5 of the light she receives; whilst at the lowest estimate Jupiter reflects more than 3-5, and Saturn more than 1-2. Bond estimates that Jupiter shines fourteen times as brightly as the moon; and this is confirmed by De la Rue's experiment with photography, by which it is shown that he shines seventeen times as brightly as if constituted like our satellite. This incontestably points to the fact that these two planets *shine with inherent light;* and that therefore they are still glowing masses, "fluid, probably, throughout, still bubbling and seething with the intensity of the primeval fires, sending up continually enormous masses of cloud to be gathered into bands under the influence of the swift rotation" of these great orbs.*

Finally the singular density of these planets is a striking confirmation of the theory. The density of Jupiter is but a fourth of the earth's; and that of Saturn is but half of this. We have no analogy to warrant us in assuming that they are composed of *different* elements from our own; but we know from a comparison of the earth and the sun that *the same matter* may exist in *different conditions.* Iron may be solid, fluid, or gaseous. Its density is least in its gaseous form. Hence the intensely heated condition of the sun, rendering his nucleus probably densely gaseous, or at most fluid, explains his small density as compared with the cool earth. In precisely the same way the small density of these giant planets must be explained, not simply because their density is small, but because it is one of many facts, all of which inevitably lead to it. The vast activities of their atmospheres, the tremendous power displayed in their changes of figure, their intense light-giving power, and their small densities, almost demonstrate that these two orbs are actual *suns,* pouring out light and heat, and repeating in no small degree the physical condition of our great central luminary. Thus the solar system becomes at once a multiple one. To worlds far out beyond, the sun would be a *double* or a *triple star,* just as they were able to detect the pale twinkle of one or both these huge orbs which would form "companions," having periods respectively of twelve and thirty years. Meanwhile they are sources of light and heat to twelve orbs of various sizes revolving round them. The habitability of these moons, though not inconceivable, would doubtless have required remarkable conditions at their vast distance from the sun. But as it is clear that their own primaries pour out light and heat, the probabilities are immensely in favour of the supposition that *they* are the centres of what may yet be a noble vitality. There is evidence that they rotate upon their axes independently of their times of revolution, and the heavens to their inhabitants must present an inconceivably splendid aspect. The disc of Jupiter to the dwellers on his inner satellite would occupy a space more than fourteen hundred times that covered by our moon. To the second satellite he is six hundred times larger, to the third two hundred times, and to the fourth sixty-five times as large as Luna is to us.

Saturn, with all the splendid variety he must present, is to the innermost of his eight moons nine hundred times as large as ours, and to his most distant he is four times as large. We seem here then to have minified solar systems; nor is it difficult to see that these huge sun-planets must, in the course of enormous cycles, spend their heat, become slowly cooler, contract into more habitable size, pass through the remaining geological changes that have in all probability been run through by our earth, and, by condensing the vast masses of gas and vapour (of which aqueous vapour has been proved by the spectroscope to be a constituent), will habilitate themselves with oceans and air, and become suitable abodes for the highest intelligence. Meanwhile their moons will have cooled more and more, and, probably repeating the history of our satellite, will have fulfilled their mission and ceased to be the abodes of life. Thus the Creator's work is ever young and ever new.

Of the two outer planets — Uranus and Neptune — lying far beyond, little that can really aid us in an inquiry of this sort is known. Their distances from us

* Other Worlds than Ours, p. 142.

are so vast that we cannot approximate to their real physical condition. Uranus has a distance from the sun of 1,752,851,000 miles, and takes eighty-four years in circling his orbit; while Neptune, the planet that the mathematical genius of Adams and Leverrier had discovered by the disturbances it produced on the orbit of Uranus, before a human eye had ever looked upon it *as* a planet, is separated from Uranus by nine hundred millions of miles, and takes 164 years to complete its prodigious round. There is doubt as to the actual number of moons they possess; which may be expected from their inconceivable distance. But their densities indicate an intensely heated condition, and the spectrum of Uranus shows that an immense proportion of hydrogen encircles the planet, showing that life as we know it cannot exist there. Knowing the large part which hydrogen plays in the solar envelopes, the probabilities are great that in these "arctic planets" we have dependent suns, aiding their numerous satellites, and making *them* the abodes of a busy life.

But having reached the limits of the solar system, what follows! Will analogy guide us amid the awful solitudes beyond? Can we hope to understand the nature and relations of the outlying clusters of orbs, a conception of whose distances defies our intellect? Already we have seen how largely we are indebted to the skill of Mr. Proctor in the interpretation and philosophic grasp of facts; but it is in the stellar universe that his powers have most displayed themselves. His striking ability to picture, to analyze, and to correlate have enabled him at once to discover the fallacies of received theories, and in the light of recent facts to indicate a path which promises to lead ultimately to as correct knowledge of the architecture of the universe as we now possess of our own system. Let us (all too briefly) seek to understand his scheme, and its bearing upon the question of other worlds than ours.

The great device of Herschel for gauging the celestial abysses was founded on a guess. He assumed that all stars were suns, and that, however various in magnitude *to us*, their sizes and distribution through space were uniform. If this were so, a powerful light-collecting telescope might pierce to the utmost star in the universe, and look on blank space beyond. It follows that the more stars, otherwise invisible, there were revealed in any one direction by this means the deeper the universe would be in that direction. By this means its form, which he held to be that of a "cloven disc," could be ascertained. The visible stars were held to lie far within; beyond these, although equally large and larger, they are invisible; but, where the universe has its profoundest stretch into space, the diffused light of incalculable aggregations of suns reaches us as the "milky way."

If this be true, it follows — (1) that the stars visible to the naked eye should be distributed with some uniformity over the heavens; (2) there should be no signs of the lucid stars gathering into streams or clustering into groups; and (3) the lucid stars should not be found to follow the *figure* of the galaxy, just as the specks on a window through which an object is viewed could not be expected to coincide with the outline of that object. In each instance it is proved that these things *are not* according to sequence.

The variety and complexity of the solar system, as known to us, is immensely greater than was imagined by Sir W. Herschel; and, as the system, as he then understood it, was held to be a safe analogue for the universe, equally so it may be to us in its known complexity. At the outset, therefore, we may expect boundless variety. We may look for systems as diverse as the most divergent that obey the behests of our sun. Then what are the facts? First the scale of the universe is inconceivably immense. An illustration will suffice. If a tower at a moderate distance be looked at at the *beginning* and *end* of a walk of two miles, it will be seen in different directions; it will have suffered apparent "displacement." Now the orbit of the earth is one hundred and eighty millions of miles in diameter; and yet in all this vast distance not a star in the heavens suffers displacement. But our instruments will detect a displacement infinitely more minute than the eye. The star *a* in the Centaur was found to have (with all stars) a "proper motion;" but it was more rapid than others, and, taking this with its great lustre, it was presumed to be comparatively near. It was found that it did suffer displacement, but it was such that the minute-hand of a watch changes four hundred times as much in *one second* as this star changes in position with the whole one hundred and eighty millions of miles space of the earth's orbit. It is consequently distant from us twenty millions of millions of

miles. From sound reasoning it appears that it is larger than the sun as eight to five. Now Sirius (more than four times as bright) shows an annual displacement not the fourth of *a* Centauri; therefore he must exceed our own sun in volume 2,688 times, having a diameter of twelve billions of miles. On the other hand, the components of sixty-one Cygni — three times as far from us as *a* Centauri — is less by 1-3 than that star; proving that a *wide range of magnitude* exists, and wholly failing to sustain the assumed uniformity.

The weight or mass of the stars has also been in several instances approximately ascertained. This is rendered practicable by the revolution round each other of binary and multiple stars; and, from the enormous weight of the more brilliant, their suitability to be the centre of vast systems is plain. But the greatest triumphs of knowledge of the astral universe have been won by the spectroscope. Its application by Huggins and Millar to the study of the chemical and physical constitution of the stars will make our century memorable in the history of science. Betelgeux, the brightest star in Orion, and Aldebaran, the leading star of Taurus, were specially examined. Their spectra were those of incandescent solid, liquid, or densely gaseous bodies, sending their light — like the sun — through absorbent vapours. In Betelgeux seventy dark lines had their places identified — showing striking similarity of constitution to the sun. But they group themselves into types, marked off by the width of their dark lines, which is dependent on the absorptive power of their envelopes; but matters common to the earth and the sun, as sodium, magnesium, hydrogen, calcium, iron, antimony, mercury, exist in all. It follows, then, that they are veritable suns; and a general structural similarity points to a universal likeness of purpose. The "fixed stars" are constituted like our sun — are in his physical condition. He is the centre of an intense activity; worlds of intelligence circle round him. These worlds have elements — as iron — in common with himself; and we know that this is utilized by intelligent beings. Hence, all analogy suggests a similar utilization in the vast systems that lie immeasurably beyond.

Now, Mr. Proctor proves that these suns are arranged in groups and clustering aggregations, in streams, and drift, and spirals infinitely complex, and are mingled with orbs of every variety of magnitude down to the minutest. The components of binary stars are often extremely minute. Star-clusters often contain orbs of the eighth or ninth magnitude, with far smaller stars. These must either be within the sidereal system, or they must have proportions which dwindle our sun to an atom. So with the nebulæ: if the stars composing them be not within the galaxy, they must possess proportions we cannot conceive.

On the other hand, an extremely close relation exists between the galaxy and the bright stars of the heavens, although no relation is supposed to exist between them; and they are pronounced to be immeasurably beyond. The milky way is "no less than nine times as richly strewn with lucid stars as its gaps and lacunæ, whereas, according to accepted views, no peculiarities are to be looked for in the distribution of the lucid stars over the galactic zone."* By the doctrine of probabilities we are bound to conclude that this association is a real one; and that the great galaxy is formed of innumerable myriads of orbs, not smaller in aspect only, but immensely so in fact than the brilliant stars with which they are grouped. They are indeed streams of stars of varying magnitudes: so that uniformity of distribution, condition, and size is not an assumption consonant with fact; and therefore the limits of the galactic system are by no means the limits of the astral universe.

By an ingenious system of star-mapping, it has been clearly shown that the distribution of the lucid stars is such as by the laws of probability would be impossible in a chance distribution. And the "proper motion" of the stars has been employed by our author to test stellar distances, side by side, with a tendency to streams, drift, and clustering. This examination, instead of showing that the smaller stars were further off than the lucid ones, gave them a mean motion equal to that of stars of the first three magnitudes; showing that they are mixed together; vast numbers of lesser ones being associated with each larger. But to make plain the actual results of stellar motion, a chart was drawn with over fifteen hundred stars in position, and an arrow was attached to each star, showing, to scale, the distance and direction in which it would travel in thirty-six thousand years. The result was, evidence that the whole heaven of

* Other Worlds than Ours, p. 263.

stars was drifting — not in any one direction, but in many; that indeed the drift of the stars in Taurus, from which Mädler inferred the centre about which the sun revolves, is but one of a vast host: such drifts, and streams, and gatherings traversing the entire universe. In Cancer and Gemini are two notable instances of this. But the one now forever memorable in the future records of science is that of the Greater Bear. It was found that, of the seven bright stars of this constellation, five are travelling in a *common direction*, and with an uniform velocity. The other two are sweeping in another direction, also at equal rates. Mr. Proctor announced his conviction that the first five were a system of stars speeding together through space. Meanwhile, means had arisen for crucially testing these surmises. It was discovered that the recession or approach of a luminous body from us can be demonstrated by the spectroscope, and its rate measured. The principle of this we may briefly indicate. It is well known that the pitch of a musical note depends on the number of vibrations which the ear receives in a given time. It rises in proportion as the number of vibrations reaching the ear — say in one second — increases; it falls in proportion as they are fewer. Now, the greater the area over which waves of sound proceed, the more they expand; and therefore, the fewer enter the ear. Thus the pitch of a railway-whistle a mile away is comparatively low; but as it rapidly advances the pitch rises, until it reaches its maximum in *passing us*, and then falls again. The heightening of the pitch depends upon the *crowding together* of the sound-waves by the *advance of the source from which the waves proceed.* It is thus with light-waves. The violet light produces the greatest number of vibrations in a given time; the red the least. Thus sodium gives a double yellow line. It represents those vibrations out of the entire continuous spectrum which produce these lines of colour. Let the body from which such light proceeds rapidly *approach* us, and of necessity the light-vibrations will be *driven together* — compressed — shortened — but the shortest and most rapid vibrations belong to the violet end; and therefore, if a body with burning sodium in it be approaching us, *its lines will be bent towards the violet end* of the spectrum. If it be *receding* from us, the vibrations will widen out, be fewer, less rapid, and thus be bent towards the red. Now if this shortening or lengthening of a wave-length be only the one tenth-millionth of a millimetre, it can be detected. Huggins applied this principle first to Sirius. He made the hydrogen line of its spectrum the test, and found that *it suffered displacement towards the red end of the spectrum;* therefore, it is *receding* from us; and its rate of recession is twenty-six miles per second!

It was by this means that the same great physicist tested the reputed drift of the five stars in the Great Bear: in the minutest particulars Mr. Proctor's announcement was confirmed, and the true structure of the universe pointed out.

The same observer has shown us that a vast proportion of nebulæ are gaseous. Star-groups, clusters, and nebulæ easily resolvable yield a continuous spectrum, the remainder are gaseous. Indeed they merge into each other, they are in progressive conditions; and their arrangement among the stars shows that the nebulæ and sidereal systems are parts of each other: the resolvable nebulæ — star-clusters — stream to the galaxy; from which the gaseous nebulæ withdraw themselves. This cannot be an accident; but shows that it is one vast system interlocked: while between the gaseous nebulæ and the lucid stars most intimate relations are visible. Their gaseous convolutions are literally intertwisted with the star-groups. Thus the giant cloud in Orion rolls down to the star in the sword, and actually envelopes it in its nimbus. The nebula in η Argus is variable in form, and its changes are now known to be associated with changes in the star. The meaning of all this seems to be indicated by the Magellanic clouds of the southern hemisphere — consisting of stars, clusters, and resolvable and irresolvable nebulæ, all grouped together. But the region in which they lie is a *stellar desert* — they seem to have gathered all their components out of vast regions of space, and have segregated into nebulæ and stars. Thus our astral universe is but a system, of infinite variety, containing within itself the elements of incessant renewal, and revealing one continuous and sublime activity — creation.

Regions of lucid matter taking forms,
Brushes of fire, hazy gleams,
Clusters and beds of worlds, and bee-like swarms
Of suns, and starry streams.

And this is but *a* system. At distances which defy our telescopes others illumine

trackless space. We cannot reach to them. But the vastness of our own is inconceivable. Only the vaster that the nebulæ are found to be *within* its sphere. And throughout, analogy insists that it teems with unnumbered worlds, quick with soaring and inquiring intelligences, dwelling in conditions of which our own may be a type.

But is not the mind lost amidst these trackless abysses? When we think of these sublime activities animating the limitless ocean of space, "What is man?" David's question, comes with infinite momentum. Is it probable that the unbounded Being that produced and sustains it all would single out this earth for incarnation and sacrifice merely to redeem man? This is, however, emphatically the question of a finite mind. A negative reply would be intellectual arrogance. We cannot understand infinity, much less an Infinite Intelligence. We cannot grasp the motions of the divine mind. His view of things is not as ours. He looks upon them *as they are*, not upon our conceptions of them. There is no distance to the Infinite; distance is a finite idea. There is no greater or lesser to God, all things are viewed in their ultimates. There is no *time* to Him, time is a finite concept:

For was, and is, and will be, are but is;
And all creation is one act at once,
The birth of light: but we that are not all,
As parts, can see but parts, now this, now that,
And live, perforce, from thought to thought, and make
One act a phantom of succession: thus
Our weakness somehow shapes the shadow, Time.

And, therefore, action on earth and in time is in no sense incongruous with our concept of the Infinite. But it must be remembered that we can only think of the Creator as infinitely perfect. Therefore he could neither conceive nor purpose anything in creation but a *perfect universe*. The moral and the mental transcend the physical to infinity; hence a flaw, a blot upon the moral universe, such as this earth presents in man, must mean either that God *could not accomplish* his projected purpose, or that, the flaw existing, he will employ competent means for its erasure. To argue that any restorative means would be beneath the "dignity" of the Creator is in fact to argue that God is finite. What mattered it that all the universe beside was pure, there was one orb on which a moral blight had settled, and, apart from the love of the infinite heart for finite but kindred intelligences, the very foundation of his being necessitates that he should restore the ruin. It is the enunciation of no *new* truth to declare that what is unnoticed in rectitude, in the preservation of its own orbit, may become intensely prominent by going wrong. The hundredth sheep was unnoticed in the flock, but the ninety and nine were left to seek it when it strayed. A nerve, an artery, a gland of whose very existence we were ignorant, may become the centres of profoundest interest in abnormal states. Many a name now cut indelibly into the tablets of history, would have passed silently into oblivion, but for crime and infamy. A name hitherto unknown to the world, may, by the atrocities of a few moments, arouse the interest of a nation, awake a continent into action, and cause the civilized world to seethe with indignation. And this earth has thrust itself upon the notice of God and angels, not because of its amplitude in the scale of being, not because it was an enormous portion of the whole, but because of its SIN — because of its infraction of the moral glory of the universe. And whilst in truth and purity it might have spent out its planet life unnoticed more than others, yet by its moral defalcation it has violated the purpose of the Infinite Mind in creation; and for His own glory — for the glory of the measureless cosmos in its relations alike to mind and matter — and for our salvation, He has used the means for securing His original purpose, and displaying in a restored universe His own unclouded perfections.

Hence it was not physical but moral means that were employed. "The Word was made flesh, and dwelt among us, and we beheld His glory." And in what did that glory consist? Not in pomp and pageant, and portent and power. Christ might have wrought miracles a thousandfold more stupendous than His mightiest, and yet have left no deeper trace than the Delphian Oracle. This was not the glory we beheld, it was *moral glory* — "the glory as of the only begotten of the Father" — a glory that showed to us that there was nothing so glorious as purity — so vast as thought — so priceless as the soul — so heroic as an unconquerable purpose to love the truth and obey God.

He was God: for none but the Infinite can disclose the Infinite. He was man,

for only through the medium of his own nature could man receive the revelation. Hence He was "the fulness of the Godhead bodily." And when He had revealed the perfect beauty of a moral life He made its attainment practically possible for every one of us by His sacrifice and resurrection. Thus He has potentially "swallowed up death in victory."

From Blackwood's Magazine.

ALICE LORRAINE.

A TALE OF THE SOUTH DOWNS.

CHAPTER LXIV.

THE darkness of the hardest winter of the present century — so far as three-fourths of its span enable us to estimate — was gathering over the South Down hills, and all hills and valleys of England. There may have been severer cold, by fits and starts, before and since; but the special character of this winter was the consistent low temperature. There may have been some fiercer winters, whose traditions still abide, and terrify us beyond range of test and fair thermometer. But within the range of trusty records, there has been no frost to equal that which began on Christmas-day, 1813.

Seven weeks it lasted, and then broke up and then began again, and lingered; so that in hilly parts the snowdrifts chilled not only the lap of May, but the rosy skirt of June. That winter was remarkable, not only for perpetual frost, but for continual snowfall; so that no man of the most legal mind could tell when he was trespassing. Hedges and ditches were all alike, and hollow places were made high; and hundreds of men fell into drifts; and some few saved their lives by building frozen snow to roof them, and cuddling their knees and chins together in a pure white home, having heard the famous and true history of Elizabeth Woodcock.

But now, before this style of things set in, in bitter earnest, nobody on the South Down hills could tell what to make of the weather. For twenty years the shepherds had not seen things look so strange-like. There was no telling their marks, or places, or the manners of the sheep. A sulky grey mist crawled along the ground, even when the sky was clear. In the morning, every blade and point, and little spike of attraction, and serrate edge (without any intention of ever sawing anything), and drooping sheath of something which had vainly tried to ripen, and umbellate awning of the stalks that had discharged their seed, were one and all alike incrusted with a little filmy down. Sometimes it looked like the cotton-grass that grows in boggy places; and sometimes like the "American blight," so common now on apple-trees; and sometimes more like gossamer, or the track of flying spiders. The shepherds had never seen this before; neither had the sheep — the woolly sages of the weather. The sheep turned up their soft black eyes with wonder towards the heavens, — the heavens where every sheep may hope to walk, in the form of a fleecy cloud, when men have had his legs of mutton.

It is needless to say that this long warning (without which no great frost arrives) was wholly neglected by every man. The sheep, the cattle, and the pigs foresaw it, and the birds took wing to fly from it; the fish of the rivers went into the mud, and the fish of the sea to deep water. The slug and the cockroach, the rat and the wholesome toad came home to their snuggeries; and every wireworm and young grub bored deeper down than he meant to do. Only the human race straggled about, without any perception of anything.

In this condition of the gloomy air, and just when frost was hovering in the grey clouds before striking, Alice Lorraine came into her father's book-room on the Christmas eve. There was no sign of any merry Christmas in the shadowed house, nor any young delighted hands to work at decoration. Mabel was gone, after a longer visit than had ever been intended; and Alice (who had sojourned in London under lofty auspices) had not been long enough yet at home to be sure again that it was her home. Upon her return she had enjoyed the escort of a mighty warrior, no less a hero than Colonel Clumps, the nephew of her hostess. The Colonel had been sadly hacked about in a skirmish soon after Vittoria, when pressing too hotly on the French rear-guard. He had lost not only his right arm, but a portion of his one sound leg; and instead of saying his prayers every morning, he sat for an hour on the edge of the bed and devoted all his theological knowledge to the execration of the clumsy bullet, which could not even select his weak point for attack. This choler of his

made much against the recovery of what was left of him; and the docters thought that country air might mitigate his state of mind, and at the same time brace his body, which sadly wanted bracing. Therefore it had been arranged that he should go for a month to Coombe Lorraine, posting all the way of course, and having the fair Alice to wait on him — which is the usual meaning of escort.

At the date of this journey, the Colonel's two daughters were still away at a boarding-school; but they were to come and spend the Christmas with his aunt in London, and then accompany her into Sussex, and perhaps appear as bridesmaids. Meanwhile their father was making himself a leading power at Coombe Lorraine. He naturally entered into strict alliance with his aunt's friend, Lady Valeria, and sternly impressed upon everybody the necessity of the impending marriage. "What earthly objection can there be?" he argued with Mrs. Pipkins, now Alice's only partisan, except old Mr. Binns, the butler; "even if Captain Chapman is rather lazy and a little too fond of his wineglass, both points are in her favour, ma'am. She will manage him like a top, of course. And as for looking up to him, that's all nonsense. If she did, he would have to look down upon her; and that's what the women can't bear, of course. How would you like it now, Mrs. Pipkins! Tut, tut, tut, now don't tell me! I am a little too old to be taken in. I only wish one of my good daughters had £50,000 thrown at her, with £20,000 a year to follow."

"But perhaps, sir, your young ladies is not quite so particular, and romantic-like, as our poor dear Miss Alice."

"I should hope not. I'd romantic them. Bread and water is the thing for young hussies, who don't know on which side their bread is buttered. But I don't believe a bit of it. It's all sham, and girlish make-believe. In her heart she is as ready as he is."

Almost everybody said the same thing; and all the credit the poor girl got for her scorn of a golden niddering, was to be looked upon as a coy piece of affectation and thanklessness. All this she was well aware of. Evil opinion is a thing to which we are alive at once; though good opinion is well content to impress itself on the coffin. Alice (who otherwise rather liked his stolid and upright nature) thought that Colonel Clumps had no business to form opinion on her affairs; or at any rate none to express it. But the Colonel always did form opinions, and felt himself bound to express them.

"I live in this house," he said, when Alice hinted at some such phantasy; "and the affairs of this house are my concern. If I am not to think about the very things around me, I had better have been cut in two, than made into three pieces." He waved the stalk of his arm, and stamped the stump of the foot of his better leg, with such a noise and gaze of wrath, that the maiden felt he must be in the right. And so perhaps he may have been. At any rate he got his way, as a veteran colonel ought to do.

With everybody he had his way. Being unable to fight any more, he had come to look so ferocious, and his battered and shattered body so fiercely backed up the charge of his aspect, that none without vast reserve of courage could help being scattered before him. Even Sir Roland Lorraine (so calm, and of an infinitely higher mind), by reason perhaps of that, gave way, and let the maimed veteran storm his home. But Alice rebelled against all this.

"Now father," she said on that Christmas eve, when the house was chilled with the coming cold, and the unshedden snow hung over it, and every sheep, and cow, and crow, and shivering bird down to the willow-wren, was hying in search of shelter; "father, I have not many words to say to you; but, such as they are, I must say them."

Sir Roland Lorraine, being struck by her quite unwonted voice and manner, rose from his chair of meditation, left his thoughts about things, which never can be thought out by mankind, and came to meet what a man should think of foremost — his child, his woman child.

"Lallie, my dear," he said very gently, and kindly looking at her sad wild eyes, whose difference from their natural softness touched him with some terror — "Lallie, now what has made you look like this?"

"Papa, I did not mean to look at all out of my usual look. I beg your pardon, if indeed I do. I know that all such things are very small in your way of regarding things. But still, papa — but still, papa, you might let me say something."

"Have I ever refused you, Alice, the right to say almost everything?"

"No, that you have never done, of course. But what I want to say now is something more than I generally want to say. Of course, it cannot matter to you,

papa; but to me it makes all the difference."

"My dear, you are growing sarcastic. All that matters to you matters a great deal more to me, of course. You know what you have always been to me."

"I do, papa. And that is why I find it so very hard to believe that you can be now so hard with me. I do not see what I can have done to make you so different to me. Girls like me are fond of saying very impudent things sometimes; and they seem to be taken lightly. But they are not forgiven as they are meant. Have I done anything at all to vex you in that way, papa?"

"How can you be so foolish, Lallie? You talk as if I were a girl myself. You never do a thing to vex me."

"Then why do you do a thing to kill me? It must come to that; and you know it must. I am not very good, nor in any way grand, and I don't want to say what might seem harsh. But, papa, I think I may say this — you will never see me Stephen Chapman's wife."

"Well, Lallie, it is mainly your own doing. I did not wish to urge it, until it seemed to become inevitable. You encouraged him so in the summer, that we cannot now draw back, honourably."

"Father, I encouraged him!"

"Yes. Your grandmother tells me so. I was very busy at that time; and you were away continually. And whenever I wanted you, I always heard 'Miss Alice is with Captain Chapman.'"

"How utterly untrue! But, O papa now, you got jealous! Do say that you got jealous; and then I will forgive you everything."

"My dear, there was nothing to be jealous of. I thought that you were taking nicely to the plan laid out for you."

"The plan that will lay me out, papa. But will you tell me one thing?"

"Yes, my dear child, a hundred things, if you will only ask them quietly."

"I am not making any noise, papa; it is only that my collar touched my throat. But what I want to know is this. If anything should happen to me, as they say; if I should drop out of everybody's way, could the money be got that you are all so steadfastly set upon getting? Could the honour of the family be set up, and poor Hilary get restored, and well, and the Lorraines go on forever? Why don't you answer me, papa? My question is a very simple one. What I have a right to ask is this — am I, for some inscrutable reason (which I have had nothing to do with), the stumbling-block — the fatal obstacle to the honour and the life of the family?"

"Alice, I never knew you talk like this, and I never saw you look so. Why, your cheeks are perfectly burning! Come here, and let me feel them."

"Thank you, papa; they will do very well. But will you just answer my question? Am I the fatal — am I the deathblow to the honour and life of our lineage?"

Sir Roland Lorraine was by no means pleased with this curt mode of putting things. He greatly preferred, at his time of life, the rounding-off and softening of affairs that are too dramatic. He loved his beautiful daughter more than anything else on the face of the earth; he knew how noble her nature was, and he often thought that she took a more lofty view of the world than human nature in the end would justify. But still he must not give way to that.

"Alice," he said, "I can scarcely see why you should so disturb yourself. There are many things always to be thought of — more than one has time for."

"To be sure, papa; I know all that; and I hate to see you worried. But I think that you might try to tell me whether I am right or not."

"My darling, you are never wrong. Only things appear to you in a stronger light than they do to me. Of course, because you are younger and get into a hurry about many things that ought to be more dwelt upon. It is true that your life is interposed, through the command of your grandmother and the subtlety of the lawyers, between poor Hilary and the money that might have been raised to save him."

"That is true, papa; now, is it? I believe every word that you say, but I never believe one word of my grandmother's."

"You shocking child! Yes, it is true enough. But after all, it comes to nothing. Of the law I know nothing, I am thankful to say; but from Sir Glanvil Malahide I understand, through some questions which your grandmother laid before him, that the money can only be got — either through this family arrangement, or else by waiting till you, as a spinster, attain the age of twenty-one — which would be nearly two years too late."

"But, papa, if I were to die?"

"Lallie, why are you so vexatious? If

you were to die, the whole of the race might end — so far as I care."

"My father, you say that, to make me love you more than I do already, which is a hopeless attempt on your part. Now you need not think that I am jealous. It is the last thing I could dream of. But ever since Mabel Lovejoy appeared, I have not been what I used to be; either with you, or with Hilary. In the case of poor Hilary, I must of course expect it, and put up with it. But I cannot see, for a moment, why I ought to be cut out with you, papa."

"What foolish jealousy, Alice! Shall I tell you why I like and admire Mabel so much? But as for comparing her with you ——"

"But, papa, why do you like, and admire, her so deeply?"

"You jealous child, I did not say 'deeply.' But I like her because she is so gentle, so glad to do what she is told, so full of self-sacrifice and self-devotion."

"While I am harsh, and disobedient, self-seeking, and devoted to self. No doubt she would marry according to order. Though I dreamed that I heard of a certain maltster, who had the paternal sanction. '*Veni, vidi, vici,*' appears to be her motto. Even grandmamma is vanquished by her, or by her legacy. She says that she curtseys much better than I do. She is welcome to that distinction. I am not at all sure that the prime end and object of woman's life is to curtsey. But I see exactly how I am placed. I will never trouble you any more, papa."

With these words, Alice Lorraine arose, and kissed her father's forehead gently, and turned away, not to worry him with the long sigh of expiring hope. She had still three weeks to make up her mind, or rather to wait with her mind made up. And three weeks still is a long spell of time for the young to anticipate misery.

"You are quite unlike yourself, my child," Sir Roland said with perfect truth; "you surprise me very much today. I am sure that you do not mean a quarter of what you are saying."

"You are right, papa. I do not mean even a tenth part of my spitefulness. I will try to be more like Mabel Lovejoy, who really is so good and nice. It is quite a mistake to suppose that I could ever be jealous of her. She is a dear kind-hearted girl, and the very wife for Hilary. But I think that she differs a little from me."

"It is no matter of opinion, Alice. Mabel differs from you, as widely as you differ from your cousin Cecil. I begin to incline to an old opinion (which I came across the other day), that much more variety is to be found in the weaker than in the stronger sex. Regard it thus ——"

"Excuse me, father. I have no courage for regarding anything. You can look at things in fifty lights; and I in one shadow only. Good-bye, darling. Perhaps I shall never speak to you again, as I have to-night. But I hope you will remember that I meant it for the best."

CHAPTER LXV.

ACCORDING to all the best accounts, that long and heavy frost began with the clearing of the sky upon Christmas-day. At least it was so in the south of England, though probably two or three days earlier in the northern counties. A great frost always advances slowly, creeping from higher latitudes. If the cold begins in London sooner than it does in Edinburgh, it very seldom lasts out the week; and if it comes on with a violent wind, its time is generally shorter. It does seem strange, but it is quite true, that many people, even well-informed, attribute to this severity of cold the destruction of the great French army during its retreat from Moscow, and the ruin of Napoleon. They know the date of the ghastly carnage of the Beresina and elsewhere, which happened more than a year ere this; but they seem to forget that each winter belongs to the opening, and not to the closing year. Passing all such matters, it is enough to say that Christmas-day 1813 was unusually bright and pleasant. The lowering sky and chill grey mist of the last three weeks at length had yielded to the gallant assault of the bright-speared sun. That excellent knight was pricking merrily over the range of the South Down hills; his path was strown with sparkling trinkets from the casket of the clouds; the brisk air moved before him, and he was glad to see his way again. But behind him, and before him, lay the ambush of the "snow-blink," to catch him at night, when he should go down, and stop him of his view in the morning. However, for the time, he looked very well; and as no one had seen him for ever so long, nobody cross-questioned him.

Mr. Struan Hales was famous for his sermon on Christmas-day. For five-and-twenty years he had made it his grand sermon of the year. He struck no

strokes of enthusiasm — which nobody dreamed of doing then, except the very low Dissenters — still he had always a strong idea that he ought to preach above the average. And he never failed to do so — partly through inspiration of other divines, but mainly by summing up all the sins of his parish, and then forgiving them.

The parish listened with apathy to the wisdom and eloquence of great men (who said what they had to say in English — a lost art for nearly two centuries), and then the parish pricked up all its ears to hear of its own doings. The rector preached the first part of his sermon in a sing-song manner, with a good see-saw. But when he came down to his parish-bounds, and traced his own people's trespasses, he changed his voice altogether, so that the deafest old sinner could hear him. It was the treat of all the year to know what the parson was down upon; and, to be sure, who had done it. Then, being of a charitable kind, and loving while he chastened, the rector always let them go, with a blessing which sounded as rich as a grace for everybody's Christmas dinner. Everybody went out of church, happy and contented. They had enough to talk about for a week; and they all must have earned the good-will of the Lord by going to church on a week-day. But the rector always waited for his two churchwardens to come into the vestry and shake hands and praise his sermon. And, not to be behindhand, Farmer Gates and Mr. Bottler (now come from Steyning to West Lorraine, and immediately appointed, in right of the number of pigs killed weekly, junior churchwarden) — these two men of excellent presence, and of accomplished manners, got in under the vestry arch and congratulated the rector.

Alice Lorraine was not at church. Everybody had missed her in her usual niche, between two dark marble records of some of her ancestors. There she used to sit, and be set off by their fine antiquity; but she did not go to church that day, as her father could not take her.

West Lorraine church had been honoured that day by the attendance of several people entitled to as handsome monuments as could be found inside it. For instance, there was Sir Remnant Chapman (for whom even an epitaph must strain its elastic charity); Stephen, his son — who had spent his harm, without having much to show for it; Colonel Clumps, who would rise and fight if the resurrection restored his legs; a squire of high degree (a distant and vague cousin of the true Lorraines), who wanted to know what was going on, having great hopes through the Woeburn, but sworn to stick (whatever might happen) to his own surname, Bloggs; and last, and best of all, Joyce Aylmer, Viscount Aylmer's only son, of a true old English family, but not a very wealthy one.

"A merry Christmas to you all!" cried Mr. Hales, as they stood in the porch. "A merry Christmas, gentlemen! But, my certy, we shall have a queer one. How keen the air is getting!"

They all shook hands with the parson, and thanked him, after the good old fashion, "for his learned and edifying discourse;" and they asked what he meant about the weather; but he was too deep to tell them. Even he had been wrong upon that matter, and was now too wise to commit himself. Then Cecil, who followed her father of course, made the proper curtseys, as the men made bows to her; and Major Aylmer's horse was brought, and a carriage for the rest of them.

"Are you coming with us, rector? We dine early," said Sir Remnant with a hungry squeak. "You can't have another service, can you? God knows, you have done enough for one day."

"Enough to satisfy you at any rate;" the rector answered smiling; "but I should have my house about my ears, if I dined outside of it on a Christmas-day. Plain and wholesome and juicy fare, sir — none of your foreign poisons. Well, good-bye, gentlemen; I shall hope to see all of you again to-morrow, if the snow is not too deep." The rector knew that a very little snow would be quite enough to stop them on the morning of the morrow — the Sunday.

"Snow, indeed! No sign of snow," Sir Remnant answered sharply; he had an inborn dislike of snow, and he wanted to be at home on the Monday. "But I say, missie, remember one thing. Tuesday fortnight is the day. Have all your fal-lals ready. Blushing bridesmaids — ah! fine creatures! I shall claim a score of busses, mind. Don't you wish it was your own turn, eh?"

The old rogue, with a hearty smack, blew a kiss to Cecil Hales, who blushed and shivered, and then tried to smile for fear of losing her locket; for it had been whispered that Sir Remnant Chapman had ordered a ten-guinea locket in London for each of the six bridesmaids. So

checking the pert reply which trembled on the tip of her tongue, she made them a pretty curtsey as they drove away.

"Now, did you observe, papa," she asked, as she took her father's arm, intending to gossip with him all up the street, "how terribly pale Major Aylmer turned when he heard about the bridesmaids? I thought he was going to drop, as they say he used to do when he first came home from America. I am sure I was right, papa; I am sure I was, in what I told you the other day."

"Nonsense, fiddlesticks, romantic flummery! You girls are never content without rivalry, jealousy, love, and despair."

"You may laugh as much as you like; but it makes no difference to me, papa. I tell you that Major Aylmer has lost his heart to Alice, a great deal worse than he lost his head in America."

"Well, then, he must live with no head and no heart. He can't have Alice. He has got no money; even if it were possible to change the bridegroom at the door of the church."

"I will tell you what proves it beyond all dispute. You know how that wretched little Captain Chapman looks up when he hates any one, and thinks he has made a hit of it. There — like that; only I can't do it, until I get much uglier. He often does it to me, you know. And then he patted his wonderful waistcoat."

"Now Cecil, what spiteful things girls are! It is quite impossible that he can hate you."

"I am thankful to say that he does, papa; or perhaps you might have sold me to him. If ever any girl was sold, Alice is both bought and sold. And Sir Roland cannot love her as she used to think, or he would have had nothing to do with it. It must be fearfully bitter for her. And to marry a man who is tipsy every night, and tremulous every morning. Oh, papa, papa!"

"My dear, you exaggerate horribly. You have always disliked poor Steenie; perhaps that is why he looks up to you. We must hope for the best; we must hope for the best. Why, bless my heart, if every man was to have the whole of his doings raked up, I should never want the marriage-register!"

"Oh, but papa, if we could only manage to change the man, you know! The other is so different, so kind, and noble, and grand, and simple! If any man in all the world is worthy to marry dear Alice, it is Major Aylmer."

"The man might be changed, but not the money," said the rector, rather shortly; and his daughter knew from the tone of his voice that she must quit the subject; the truth being (as she was well aware) that her father was growing a little ashamed of his own share in the business.

CHAPTER LXVI.

DARK weather and dark fortune do not always come together. Indeed the spirit of the British race, and the cheer flowing from high spirit, seem to be most forward in the worst conditions of the weather. Something to battle with, something to talk about, something to make the father more than usually welcome, and the hearth more bright and warm to him, and something also which enlarges by arousing charity, and spreads a man's interior comfort into general good-will — bitter weather, at the proper season, is not wholly bitterness.

But when half-a-dozen gentlemen, who care not a fig for one another, hate books (as they hated their hornbooks), scorn all indoor pursuits, but gambling, gormandizing, and drinking, and find little scope for pursuing these — when a number of these are snowed up together and cannot see out of the windows — to express it daintily, there is likely to be much malediction.

And this is exactly what fell upon them, for more than a week, at Coombe Lorraine. They made a most excellent dinner on Christmas-day, about three o'clock, as they all declared; and in spite of the shortness of the days, they saw their way, till the wine came. They were surprised at this, so far as any of them noticed anything; for, of course, no glance of the setting sun came near the old house in the winter. And they thought it a sign of fine hunting-weather, and so they went on about it; whereas it was really one of the things scarcely ever seen down here, but common in the arctic regions, the catch and the recast, and the dispersion of all vague light downward, by unmeasurable depth of gathering snow-vapour.

The snow began about seven o'clock, when the influence of the sun was lost; and for three days and three nights it snowed, without taking or giving breathing-time. It came down, without any wind, or unfair attempt at drifting. The meaning of the sky was to snow and no more, and let the wind wait his time afterwards. There was no such thing as

any spying between the flakes at any time. The flakes were not so very large, but they came as close together as the sand pouring down in an hour-glass. They never danced up and down, like gnats or motes, as common snowflakes do, but one on the back of another fell, expecting millions after them. And if any man looked up to see that gravelly infinitude of pelting spots, which swarms all the air in a snowstorm, he might just as well have shut both eyes, before it was done by snowflakes.

All the visitors, except the Colonel, were to have left on Monday morning, but only one of them durst attempt the trackless waste of white between the South Down coombe and their distant homes. For although no drifting had begun as yet, some forty hours of heavy fall had spread a blinding cover over road and ditch, and bog and bank, and none might descry any sign-post, house, tree, or hill, or other landmark, at the distance of a hundred yards, through the snow, still coming down as heavily as ever. Therefore everybody thought Major Aylmer almost mad when he ordered his horse for the long ride home in the midst of such horrible weather.

"I don't think I ought to let you go," his host said, as the horse came round, as white already as a counterpane. "Alice, where is your persuasive voice? Surely you might beg Major Aylmer to see what another day will bring."

"Another day would only make it worse," Joyce Aylmer replied, with a glance at Alice, which she perfectly understood. "I might be snowed up for a week, Sir Roland, with my father the whole time fidgeting. And after all, what is this compared to the storms we had in America?"

"Oh, but you were much stronger then. You would not be here were it not so."

"I scarcely know. I shall soon rejoin if I get on so famously as this. But I am keeping you in the cold so long, and Miss Lorraine in a chilly draught. Good-bye once more. Can I leave any message for you at the rectory?"

In another second the thick snow hid him and his floundering horse as they headed towards the borstall, for as yet there was only a foot-bridge thrown over the course of the Woeburn, and horsemen or carriages northward bound were obliged to go southward first, and then turn to the right on the high land, and thus circumvent the stream; even as Alice, quickly thinking, had enabled poor Bonny to recover his Jack.

Alice went back, with a sigh, to her own little room to sit and think awhile. She knew that she had seen the last of a man whom she could well have loved, and who loved her (as she knew somehow) much too well already. Feeling that this could do no good, but only harm to both of them, he had made up his mind to go ere any mischief should arise from it. He had no idea how vastly Alice scorned poor Steenie Chapman, otherwise even his duty towards his host might perhaps have failed him. However, he had acted wisely, and she would think no more of him.

This resolution was hard to keep when she heard a little later in the day that the major had sent back his groom, after making believe to take him. The groom brought a message from his master begging quarters for him for a day or two on the plea that his horse had broken down; but Alice felt sure that he had been sent back, because Major Aylmer would not expose him to the risk which he meant himself to face. For she knew it to be more than twenty miles (having studied the map on the subject) from Coombe Lorraine to Stoke-Aylmer. And all in the teeth of a bitter wind now just beginning to crawl and wail as only a snowy wind can do.

The rest of the gentlemen plagued the house. It was hard to say which was the worst of them — Sir Remnant (who went to the lower regions to make the acquaintance of the kitchen-maids), or Colonel Clumps (who sat on a sideboard, and fought all his battles over again with a park of profane artillery), or Squire Bloggs (who bit his nails, and heavily demanded beer all day), or Steenie, who scorned beer altogether, and being repulsed by Onesimus Binns, at last got into Trotman's "study," and ordered some bottles up, and got on well. He sent for his groom, and he sent for his horn (which he had not wind enough to blow), and altogether he carried on so with a greasy pack of cards and a dozen grimy tumblers, that while the women, being strictly sober, looked down on his affability, the men said that they had known much worse.

For a week Sir Roland Lorraine was compelled to endure this wearing worry — tenfold wearisome as it was to a man of his peculiar nature. He had always been shy of inviting guests; but when they were once inside his door, the hos-

pitality of his race and position revived within him. All in the house was at their service, including the master himself, so far as old habits can be varied. But now he was almost like the whelk who admits the little crab for company, and is no more the master of his own door. No man in all England longed that the roads might look like roads again more heartily and sadly than the hospitable Sir Roland.

With brooms of every sort and shape, and shovels, and even pickaxes, all the neighbourhood turned out, as soon as ever a man could manage to open his own cottage-door. For three days it had been no good to try to do anything but look on; but the very first moment the sky left off everybody living under it began to recover courage. The boys came first in a joyful manner, sinking over their brace-buttons in the shallow places, and then the girls came, and were puzzled by the manner of their dress, till they made up their minds to be boys for a time.

And after these came out their mother, for the sake of scolding them; and then the father could do no less than stand on his threshold with pipe in mouth, and look up wisely at the sky, and advise everybody to wait a bit. And thus a great many people managed to get out of their houses. And it was observed, not only then, but also for many years to come, how great the mercy of the Lord was. Having seen fit to send such a storm, he chose for it, not a Wednesday night, not a Thursday night, nor a Friday night, but a Saturday night, when he knew, in his wisdom, that every man had got his wages, and had filled his bread-pan.

As for the roads, they were blocked entirely against both wheels and horses until a violent wind arose from the east and winnowed fiercely. Sweeping along all the bend of the hill, and swaying the laden copses, it tore up the snow in squally spasms, and cast white blindness everywhere. Three days the snow had defied the wind, and for three days now the wind had its way. Vexed mortals could do nothing more than shelter themselves in their impotence, and hope, as they shivered and sniffed at their pots, that the Lord would repent of his anger. It was already perceived and where people could get together they did not hide it, that Mr. Bottler must go up, and Farmer Gates come down a peg. For although the sheep were folded well, and mainly fetched into the hollows, as soon as the drift began, it was known that the very precaution would murder them. For sheep have a foolish trick of crowding into the lee of the fold, just where the drift must be the deepest. But pigs are as clever as their mother, dirt — which always gets over everything. So Farmer Gates lost three hundred sheep, while Bottler did not lose a pig, but saved (and exalted the price of) his bacon.

When the snow, on the wings of the wind, began to pierce the windows of Coombe Lorraine (for in such case no putty will keep it out), and every ancient timber creaked with cold disgust of shrinking, and the "drawing" of all the fireplaces was more to the door than the chimney, and the chimneys drew submissive moans to the howling of the tempest, and chilly rustles and frosty taps sounded outside the walls and in — from all these things the young lady of the house gained some hope and comfort. Surely in such weather no one could ever think of a wedding; nobody could come or go; it would take a week to dig out the church, and another week to get to it. Blow, blow, thou east wind, blow, and bury rather than marry us.

But the east wind (after three days of blowing, and mixing snow of earth and sky) suddenly fell with a hollow sound, like the "convolutions of a shell," into deep silence. Clear deep silence settled on the storm of drifted billows. As the wind left them, so they stopped, until the summer rose under them; for spring there was none in that terrible year, and no breath of summer until it broke forth. And now set in the long steadfast frost, which stopped the Thames and Severn, the Trent and Tweed, and all the other rivers of Great Britain. From the source to the mouth a man might cross them without feeling water under him.

Alas for poor Alice! The roads of the weald (being mainly unhedged at that time) were opened as if by "Sesame." The hill-roads were choked many fathoms deep wherever they lay in shelter; but the furious wind had swept the flat roads clear, as with a besom. Their brown track might be traced for miles, frozen as hard as an oaken plank, except where a slight depression, or a sudden bend, or a farmer's wall, had kept the white wave from shoaling. So, as soon as a passage had been dug through the borstall, and down the dell to the westward, the Chapmans were free to come and go with their gaudy coach as usual.

Alice took this turn of matters with all the calmness of despair. It was nothing but a childish thing to long for a few days' reprieve, which could not help her much, and might destroy all the good of her sacrifice. In one way or the other, she must go; standing so terribly across the welfare of all that was dear to her, and seeming (as she told herself) to have no one now to whom she was dear. With no one to admire or aid her, no one even to feel for her, she had to meet the saddest doom that can befall proud woman — wedlock with an abject.

CHAPTER LXVII.

AND now there was but one day left; Monday was come, and on the morrow, Alice was to be Mrs. Stephen Chapman.

"You call yourself an unlucky fellow," said Colonel Clumps to Hilary, who was leaning back in his easy-chair; "but I call you the luckiest dog in the world. What other man in the British army could have lost fifty thousand guineas, escaped court-martial, and had a good furlough, made it all snug with his sweetheart (after gallivanting to his heart's content), and then got the chance to get back again under Old Beaky, and march into Paris? I tell you they will march into Paris, sir. What is there to stop them?"

"But, Colonel, you forget that I can scarcely march across the room as yet. And even if I could, there is much to be done before I get back again. Our fellows may go into winter-quarters, and then the General's promise drops; or even without that, he may fail with the Duke of York, who loves him not."

"Stuff and rubbish, my dear boy! You pay the money — that's all you've got to do. No fear of their refusing it. Of course it will all be kept very quiet; and we shall find in the very next *Gazette* some such paragraph as this: 'Captain Lorraine, of the Headquarter Staff, who has long been absent on sick-leave, is now on his way to rejoin, and will resume his duties upon the staff.'"

"Come, now, Colonel, you are too bad," cried Hilary, blushing with pleasure, "they never could put me on the staff again. It is impossible that they could have the impudence."

"Don't tell me. Why, they had the impudence never to put me on it! They have impudence enough for anything. You set to and get strong, that is all. Are you going to your sister's wedding to-morrow?"

"I will tell you a secret; I mean to go, though I am under strict orders not to go. What do I care for the weather? Tush, I have settled it all very cleverly. You will see me there when you least expect it. Lallie has behaved very badly to me; so has everybody else about it. Am I never to be told anything? She seems to be in a great hurry about it. Desperately in love, no doubt, though from what I remember of Stephen Chapman I am a little surprised at her taste — but of course ——"

"Of course, of course, one must never say a word about young ladies' fancies. There was a young lady in Spain — to be sure there are a great many young ladies in Spain ——"

The Colonel dropped the subject in the clumsiest manner possible. He was under medical orders not to say a word that might stir up Hilary; and yet from the time he came into the room he had done nothing else but stir him up. Colonel Clumps was about the last man in the world that ought to stump in at any sick man's door. "Dash it, there I am again!" he used to say as he began to let out something, and stopped short, and jammed his lips up, and set his wooden apparatus down. Therefore he had not been allowed to pay many visits to Hilary, otherwise the latter must soon have discovered the nature of the arrangement pending to retrieve his fortunes. At present he thought that the money was to be raised by a simple mortgage, of which he vowed in his sanguine manner, that he would soon relieve the estates, by getting an appointment in India, as soon as he had captured Paris. Mabel of course would go with him, and be a great lady, and make his curries. He was never tired of this idea, and was talking of it to Colonel Clumps, who had seen some Indian service, when a gentle knock at the door was heard, and a soft voice said, "May I come in?" As Alice entered, the battered warrior arose and made a most ingenious bow, quite of his own invention. Necessity is the mother of that useful being; and the Colonel having no leg to stand upon, and only one arm to balance with, was in a position of extreme necessity. Of late he had almost begun to repent of serving under Lady Valeria; the beauty and calm resignation of Alice had made their way into his brave old heart; and the more he saw of Captain Chapman, the more he looked down on that feather-bed soldier.

"Good-bye, my lad. Keep your pecker up," he said, beginning with his thick bamboo to beat a retreat; for Hilary was not allowed two visitors; "we'll march into Paris yet, brave boys; with Colonel Clumps at the head of the column. Don't be misled by appearances, Alice; the Colonel has got good work in him yet. His sword is only gone to be sharpened, ma'am; and then he'll throw away this d—d bamboo."

In his spirited flourish the Colonel slipped, not yet being master of his wooden leg, and down he must have come, without the young lady's arm, as well as the aid of the slighted staff. Alice, in spite of all her misery, could not help a little laugh, as the Colonel, recovering his balance, strutted carefully down the passage.

"What a merry girl you are!" cried Hilary, who was a little vexed at having his martial council routed. "You seem to me to be always laughing when there is nothing to laugh at."

"That shows a low sense of humour," she answered, "or else an excess of high spirits. Perhaps in my case, the two combine. But I am sorry if I disturbed you."

"I am not quite so easily disturbed. I am as well as I ever was. It is enough to make one ill, to be coddled up in this kind of way."

"My dear brother, you are to be released as soon as the weather changes. At present nobody ventures out who is not going to be married."

"Of that I can judge from the window, Lallie; and even from my water-jugs. But how is your very grand wedding to be? I have seen a score of men shovelling. You seem to be in such a hurry, dear."

"Perhaps not. Let us talk of something else. Do you really think, without any nonsense, that all your good repute and welfare depend on the payment of the money which you have lost?"

"How can you ask me such a stupid question? I never could lift up my head again—but it is not myself, not at all for myself—it is what will be said of the family, Alice. And I do not see how the raising of the money can interfere at all with you."

"No, no, of course not," she said, and then she turned away and looked out of the window, reflecting that Hilary was right enough. Neither loss nor gain of money could long interfere at all with her.

"Good-bye, darling," she said at last, forgiving his sick petulance, and, putting back his curly hair, and kissing his white forehead—"Good-bye, darling; I must not stay; I always seem to excite you so. You will not think me unkind, I am sure; but you may not see me again for ever—oh, ever so long; I have so much to do before I am ready for—my wedding."

Hilary allowed himself to be kissed with brotherly resignation; and then he called merrily after her—"Now, Lallie, mind, you must look your best. You are going to make a grand match you know. Don't be astonished if you see me there. Why don't you answer?"

She would not look round, because of the expression of her face, which she could not conceal in a moment—"I am not at all sure," said the brother wisely, as the sister shut the door and fled, "that the man who marries Alice won't almost have caught a Tartar. She is very sweet-tempered; but the good Lord knows that she is determined also. Now Mabel is quite another sort of girl," &c. &c.—reflections which he may be left to reflect.

Alice Lorraine, having none to advise with, and being in her firm heart set to do the right thing without flinching, through dark days and through weary nights had been striving to make sure what was the one right thing to do. It was plain that the honour of her race must be saved at her expense. By reason of things she had no hand in, it had come to pass that her poor self stood in everybody's way. Her poor self was full of life, and natural fun, and mind perhaps a little above the average. No other self in the world could find it harder to go out of the world; to be a self no more peradventure, but a wandering something. To lose the sight and touch, and feeling of the light, and life, and love; not to have the influence even of the weather on them; to lie in a hollow place, forgotten, cast aside, and dreaded; never more to have, or wish for, power to say yes or no.

This was all that lay before her, if she acted truly. As to marrying a man she scorned—she must scorn herself ere she thought of it. She knew that she was nothing very great; and her little importance was much pulled down by the want of any one to love her; but her purity was her own inborn right; and nobody should sell or buy it.

"I will go to my father once more," she thought; "he cannot refuse to see

me. I will not threaten. That would be low. But if he cares at all to look, he will know from my face what I mean to do. He used, if I had the smallest pain, he used to know it in a moment. But now he cares not for a pain that seems to take my life away. Perhaps it is my own fault. Perhaps I have been too proud to put it so. I have put it defiantly, and not begged. I will beg, I will beg; on my knees I will beg, will cry, as I never cried before, oh, father, father, father!"

Perhaps, if she had won this chance, she might even yet have vanquished. For her last reflection was true enough. She had been too defiant, and positive in her strength of will towards her father. She had never tried the power of tears and prayers, and a pet child's eloquence. And her father, no doubt, had felt this change in her attitude towards him, and had therefore believed more readily his mother's repeated assertions, that nothing stood in the way of a most desirable arrangement, except the coyness of a spirited girl, whose fancy was not taken.

But the luckless girl lost all the chances of a last appeal, through a simple and rather prosaic affair. Her father was not to be found in his book-room; and hurrying on in search of him, she heard the most melancholy drone, almost worse than the sad east wind. Her prophetic soul told her what it was, and that she had a right to be present. So she knocked at the door of a stern, cold room, and being told to enter, entered. There she saw seven people sitting, and looking very miserable; for the bitter cold had not been routed by the new-made fire. One was reading a tremendous document, five were pretending to listen, and one was listening very keenly. The reader was a lawyer's clerk; three of the mock-listeners were his principal, and the men of the other side; the other two were Sir Roland Lorraine and Captain Stephen Chapman. The real listener was Sir Remnant, who pricked up his ears at every sentence. Upon the table lay another great deed, or rather a double one, lease and release,—the mortgage of all the Lorraine estates, invalid without her signature, which she was too young to give. Alice Lorraine knew what all this meant. It was the charter of her slavery, or rather the warrant of her death. She bowed to them all, and left the room; with "And the said, and the said—doth hereby, doth hereby"—buzzing in her helpless brain.

Now followed a thing which forever settled and sealed her determination. Steenie, on the eve of his wedding-day, really felt that he ought to do something towards conciliating his bride. He really loved (so far as his nature was capable of honest love) this proud and most lovable maiden, who was to belong to him tomorrow. And his father had said to him, as they came over to go through the legal ceremony, 'Nurse my vittels, now Steenie, for God's sake, try to be a man a bit. The mistake you make with the girl, is the way you keep your distance from her. Why, they draw up their figures, and screw up their mouths, on purpose to make you run after them. I have seen such a lot of it. And so have you. All girls are alike; as you ought to know now. Why can't you treat her properly?"

The unfortunate Steenie took this advice, and he took (which was worse) a great draught of brandy. And so, when the lawyer's drone had driven him thoroughly out of his patience, at the sight of Alice he slipped out and followed her down the passage.

She despised him too much to run away, as he had hoped that she would do. She heard his weak step, and weaker breath, and stopped, and faced him quietly.

CHAPTER LXVIII.

STANDING in a dark grey corner of the old stone passage, below a faded and exiled portrait of some ancestor of hers, Alice looked so calm and noble, that Steenie (although he "had his grog on board," with his daily bill of lading) found it harder than he expected to follow his father's counsel. In twenty-four hours he would have this lovely creature at his mercy; and then he would tame her, and make her love him, and perhaps even try to keep to her. For he really did love this poor girl, in a way that quite surprised him; and he could not help thinking that if she knew it, by Jove she must be grateful!

"Alice, dear Alice, sweet Alice!" he said, as at every approach she shrank further away; "lovely Alice, what have I done, that you will not yield me one beautiful smile? You know how very well I have behaved. I have not even pleaded for one kiss. And considering all that is between us——"

"Considering the distance there is between us, you have shown your judgment."

"You do not understand me at all. What I meant was entirely different. There should be no difference between us. Why should there be? Why should there be? In a few hours more we shall both be alike; flesh of one flesh, and bone of one bone. I am not quite sure that I have got it right. But I am not far out at any rate."

"Your diffidence is your one good point. You are very far out when you overcome it. Have the kindness to keep at a proper distance, and hear what I have to say. I believe that you mean well, Stephen Chapman; so far as you have any meaning left. I believe that you even mean well by me; and, in your weak manner, like me. But if you had gone all round the world, you could not have found one to suit you less. I used to think that I was humble; as of course I ought to be; but when I search into myself, I find the proudest of the proud. Nothing but great misery could have led me to this knowledge. I speak to you now for the last time, Stephen; and I never meant to speak as I do. But I believe that, in your little way, you like me and I cannot bear to be thought too hard."

Here Alice burst into bitter crying, at the thought of the name she might leave behind.

"What shall I do? Whatever can I do?" cried Stephen, not being such a very hard fellow, any more than the rest of us; but feeling himself unworthy even to touch her pocket-handkerchief.

"You have nothing to do, I should hope, indeed," answered Alice, recovering dignity; "I am very glad that, whatever happens, you may blame other people. Please to remember that I said that. And good-bye, Captain Chapman."

"Good-bye, till dinner-time, my darling — well, then, good-bye, Miss Lorraine."

"At any rate I am glad," she thought, as she hastened to her room, "that, even to him, I have said my last as kindly as I could manage it."

When she entered her room, it was three o'clock, and the day already waning; though the snow from hill and valley, and the rime of quiet frost, spread the flat pervading whiteness of the cold and hazy light. Alice looked out and thought a little; and the scene was by no means cheering. The eastern side of the steep straight coombe (up which clomb the main road to the house) lay thirty or forty feet deep in snow, being filled by the drift that swept over its crest, for nearly the breadth of the coombe itself. But under the western rampart still a dark-brown path was open, where the wind, leaping over the eastern scarp, had whirled the snow up in the western. And here, through her own pet garden, fell a direct path down to the Woeburn.

She had long been ready to believe that here her young and lively life must end. Down this steep and narrow way she had gazed, or glanced, or peeped (according to the measure of her courage), ever since the Woeburn rose, and she was sure what it meant for her. Now looking at it, with her mind made up, and her courage steadfast, she could not help perceiving that she had a great deal to be thankful for. Her life had been very bright and happy, and it had been long enough. She had learned to love all pleasant creatures, and to make them love her. She had found out that nature has tenfold more of kindness than of cruelty; and that of her kindness, all the best and dearest ends in death. Painless death, the honest and the peaceful end of earthly things; noble death, that settles all things, scarcely leaving other life (its brief exception) time to mourn.

All this lay clear and bright before her, now that the golden mist of hope was scattered by stern certainty. Many times she had been confused by weak desires to escape her duty, and foolish hankerings after things that were but childish trifles. About her bridal dress, for instance, she had been much inclined to think. Of course, she never meant to wear it; still, she knew that the London people meant to charge to a long extreme; and she thought that she ought to try it on once more ere ever it was rashly paid for. She truly cared, no more than can be helped by any woman, whether it set her off or not; but she knew that it must be paid for, and she wanted to know if the Frenchwoman had caught any idea of her figure.

To settle this question, she locked the door, and then very carefully changed her dress. Being the tidiest of the tidy, and as neat as an old maid in her habits, she left not a pin, nor a hair on the cloth, nor even a brush set crooked. Then, being in bridal perfection, and as lovely a bride as was ever seen, without one atom of conceit, she knew that she was purely beautiful. She stood before the glass, and sadly gazed at all her beauty. There she saw the large sweet forehead (calm and clear as ever), the deep desire of loving eyes for some one to believe in,

the bright lips even now relaxing into a sadly playful smile, the oval symmetry of chastened face, in soft relief against the complex curves and waves of rebellious hair. To any man who could have won her love, what a pet, what a treasure she might have been, what a pearl beyond all price — or, as she simply said to herself, what a dear, good wife! It was worse than useless to think of that; but, being of a practical turn of mind, she did not see why she should put on her lovely white satin, and let no one see it.

Therefore, she rung for her maid, who stared, and cried, "Oh, laws, miss! what a booty you do look!" and then, of course, wanted to put in a pin, and to trim a bow here, and to stroke a plait there; "It is waste of time," said Alice. Then she told her to send Mrs. Pipkins up; and the good housekeeper came and kissed her beautiful pet, as she always called her (maintaining the rights of the nursery days), and then began some of the very poor jokes supposed to suit such occasions.

"Pippy," said Alice, that the old endearment might cure the pain of the sudden check, "you must not talk so; I cannot bear it. Now just tell papa, not yet, but when the dinner is going in, give him this message — say with my love that I beg him to excuse me from coming in to dinner, because I have other things to see to. And mind, Pippy, one thing: I have many arrangements to make before I go away; and if my door should be locked to-night, nobody is to disturb me. I can trust you to see to that, I know. And now say 'good-bye' to me, Pippy, dear; I may not see you again, you know. Let me kiss you as I used to do, when I was a dear, good little child, and used to coax for sugar-plums."

As soon as her kind old friend was gone, Alice made fast her door again, and took off her bridal dress, and put on a plain white frock of small value; and then she knelt down at the side of her bed, and said her usual evening prayers. Although she made no pretence to any vehement power of piety, in the depth of heart and mind she nourished love of God, and faith in Him. She believed that He gives us earthly life, to be rendered innocently back to Him, not in cowardly escape from trouble, but when honour and love demand it. In the ignorance common to us all, she prayed.

Then, when all the house was quiet, except for the sound of plates and dishes greasily going into deep baskets, one on the head of another), Alice Lorraine, having gathered her long hair into a Laconian knot, put her favourite garden hat on, and made the tie firm under her firm chin. She looked round her favourite room once more, and nodded farewell to everything, and went to seek death with a firmer step than a bride's towards a bridegroom.

Attired in pure white she walked through a scene of bridal beauty. Every tree was overcast with crystal lace and jewellery; common bushes and ignominious shrubs stood up like sceptres; weeping branches shone like plumes of ostrich turned to diamond. And on the ground wave after wave of snowdrift, like a stormy tide driven by tempestuous wind, and bound in its cresting wrath by frost.

Although there was now no breath of wind, Alice knew from the glittering whiteness that it must be very cold. She saw her pretty bower like a pillow under bedclothes; and on the clear brown walk she scattered crumbs for the poor old robin as soon as he should get up in the morning. Then for fear of giving way, she gathered up her dress and ran. She had no overwhelming sense of fate, necessity, or Até — the powers that drove fair maids of Greece to offer themselves for others. She simply desired to do her duty, to save the honour of her race, and her pure self from defilement.

The Woeburn was running as well as ever, quite untouched by any frost, and stretched at its length like a great black leech who puts out his head for suction. Gliding through great piles of snow, it looked sable as Cocytus, with long curls of white vapour hovering, where the cold air lay on it. The stars were beginning to sparkle now; and a young moon gazing over Chancton Ring avouched the calm depth of heaven.

Then Alice came forward, commended her soul to God in good Christian manner, and without a fear, or tear, or sigh, committed her body to the Deathbourne.

From Blackwood's Magazine.

THE ABODE OF SNOW.

PART II.

SIMLA AND ITS CELEBRITIES.

ACCORDING to some people, and especially according to the house-proprietors of Calcutta, who view its attractions

with natural disfavour, Simla is a very sinful place indeed; and the residence there, during summer, of the viceroy and his members of council, ought to be discouraged by a paternal secretary of state for India. The "Capua of India" is one of the terms which are applied to it; we hear sometimes of "the revels upon Olympus;" and one of the papers seemed to imagine that to describe any official as "a malingerer at Simla" was sufficient to blast his future life. Even the roses and the rhododendrons, the strawberries and the peaches, of that "Circean retreat," come in for their share of moral condemnation, as contributing to the undeserved happiness of a thoughtless and voluptuous community. For this view there is some show of justification. Simla has no open law-courts to speak of, or shipping, or mercantile business, or any of the thousand incidents which furnish so much matter to the newspapers of a great city. The large amount of important governmental business which is transacted there is seldom immediately made known, and is usually first communicated to the public in other places. Hence there is little for the newspaper correspondents to write about except the gaieties of the place; and so the balls and picnics, the croquet and badminton parties, the flirtations and rumoured engagements, are given an importance which they do not actually possess, and assume an appearance as if the residents of Simla had nothing to do but to enjoy themselves and "to chase the glowing hours with flying feet."

But, in reality, the dissipation of Simla is not to be compared with the dissipation of a London season; and if the doings of any English provincial town or large watering-place in its season were as elaborately chronicled and looked up to and magnified, maliciously or otherwise, as those of the Indian Capua are, the record would be of a much more scandalous and more imposing kind. Indeed, unless society is to be put down altogether, or conducted on Quaker principles, it is difficult to see how the Anglo-Indians, when they go to the hills, could conduct themselves much otherwise than as they do; and probably more in Simla than anywhere else, there exists the feeling that life would be tolerable were it not for its amusements. After a hard day's office work, or after a picnic which involved a dozen miles' slow ride and a descent on foot for a thousand feet or so into a hot valley like that of Mushobra, it is not by any means pleasant to don full dress, to put waterproofs over that, and to go on horseback or be carried in an uncomfortable *jhampan* for three or four miles, and in a raging storm of wind, thunder, and rain, out to a *burra khana*, or big dinner, which is succeeded in the same or in some other house by a larger evening party. Combinations such as this turn social enjoyment into a stern duty; and as society expects that every woman shall do her duty, the ladies of Simla endure their amusements with the courage and spirit of Englishwomen who, for the sake of their sons and brothers and husbands, even more than their own sakes, are not going to be left behind in sacrificing *aux convenances*. But no one who knows what European society is will accuse Simla, of the present and preceding viceroyships at least, of being an abode of dissipation or of light morality. Wherever youth and beauty meet, there will, no doubt, be a certain amount of flirtation, even though the youth may be rather shaky from long years of hard work in the hot plains of India, or from that intangible malady which a friend styles as "too much East," and though the beauty be often pallid and *passé;* but anything beyond that hardly exists at Simla at all, and has the scantiest opportunity for developing itself. Overworked secretaries to government, and elderly members of council, are not given either to indulge in levity of conduct or to wink at it in others; the same may be said of their ladies: and the young officers and civilians who go up to Simla for their leave are usually far-seeing young men who have an eye to good appointments, and, whatever their real character may be, are not likely to spoil their chances of success by attracting attention to themselves as very gay Lotharios. Moreover, at Simla, as almost everywhere in India, people live under glass cases; everything they do is known to their native servants and to the native community, who readily communicate their knowledge of such matters to Europeans. Before the Mutiny, and perhaps for some time after it, matters were somewhat different. From whatever cause, the natives, though they saw the doings of the English in India, were as if they saw not, and, as a rule, communicated their knowledge on the subject only to each other. Now, they not only see, but speak freely enough; and no immorality can be carried on in an Indian station without its being known all over the station, except,

perhaps, in cases where the offenders are exceedingly popular with the natives, or are in very high powerful positions, or the party sinned against is very much disliked.

Some sneers have been indulged in of late, even in Parliament, at the alleged industry of members of the Supreme Council and other officials to be found at Simla, as if a certain amount of hospitality and of mingling in society were incompatible with leading a laborious life. But if we except the soldiers and regimental officers, it will be found that most of the English in India, be they civilians, staff-officers, educationalists, surgeons, merchants, missionaries, or editors, are compelled to live very laborious days, whether they may scorn delights or not. A late Indian governor, accustomed to parliamentary and ministerial life in England, used to declare that he had never been required to work so hard in London as he was in his comparatively unimportant presidency town. "Every one is overworked in India," was remarked to me by an Oudh director of public instruction, who was himself a notable instance of the assertion; and I have often had occasion to notice how much overtasked Indian officials of the higher grades are, and that in a country where the mind works a good deal more reluctantly and slowly than in Europe, and where there is very little pleasure in activity of any kind for its own sake. It is absurd to suppose that the immense task of Indian government can be accomplished by the handful of Englishmen there, without the greatest strain upon their individual energies. Not only have they to do all the ordinary work of a European government — they have also themselves to fill the greater number of judicial, revenue, and educational appointments, to construct public works, to direct the police, to accomplish great part of the work of governing which, in this country, is performed by hundreds of county gentlemen and city magnates; and, over and above all that, it is expected that they shall save the Indian people from the consequences of famine, and be able to show every year that they have elevated that people in the scale of humanity. The supervision of all this arduous labour — the performance of a certain share of its details — the sitting in judgment on numerous appeal-cases of the most various and complicated kind — the management of our relationships with great native states both within and without the Indian peninsula — the settlement of important questions of the most difficult kind — and by far the greater share of the immense responsibility of governing an alien empire of nearly two hundred millions of people, — all this, and much more, falls upon the supreme government, whether it be located at Calcutta or at Simla; and to compel it to remain nearly all the year in the unhealthy delta of the Ganges, would be to burden it with a good deal more than the straw which breaks the camel's back.

It is obvious at Simla that the supreme government has selected for its summer residence about the best place to be found among the outer Himáliya. The duties of the government of India will not allow that government to bury itself in the interior of the great mountains, where much more healthy spots are to be found, or to select any place of residence far distant from railway communication. As it is, the viceroy, with his staff, and all the members of council, and the secretaries to government, could be at Ambála, on the great railway-line, in about twelve hours after leaving Simla, or even less on a push; and fifty hours by rail would take them to Calcutta, or sixty hours to Bombay. They are in close proximity to the Panjáb, and have the railway from Ambála to Lahore and Múltan, with steamers from the latter place down the Indus to its mouth or to Kotri, from whence there is a short line of railway to the port of Karáchi. Delhi, Agra, and all the great cities of the north-west are within easy reach. They are in much closer proximity to any cities and districts likely to be dangerous than they would be at Calcutta, and are also much nearer to the places which give rise to difficult questions of policy. In old times it was different; but now, with the rail and telegraph going over the land, it is of little importance in which of a hundred places the Indian government may be situated; but it is of great importance that its members should not be unnecessarily exposed to the depressing and destroying influence of the Indian hot season and rains. It only remains to remove the headquarters of government from Calcutta to some more central position, such as Agra or Allahabad; and I fancy only financial considerations stand in the way of that being done, for it would involve the erection of a number of new government buildings.

Society everywhere in India labours under very great disadvantages, and va-

ries very much according to the character of its ever-changing leaders. Sir Emerson Tennent has observed that it is "unhappily the tendency of small sections of society to decompose when separated from the great vital mass, as pools stagnate and putrefy when cut off from the invigorating flow of the sea;" and he adds that the process is variable, so that a colonial society which is repulsive to-day may be attractive to-morrow, or a contrary change may take place with one or two departures or new arrivals. The same holds good in India; and though Indian society can boast of some superiority to colonial (a superiority which is amusingly asserted on board mail-steamers), it has very great defects of its own, and in certain circumstances degenerates into the intolerable. One tendency of life in India is to create an immense amount of conceit, and to make men assume airs of superiority, not because of any superiority of mind or character, or on account of great services rendered to the State, but simply because long residence in the country, or some particular district of it, has given them high appointments, or the advantage as regards local knowledge. Then, though military society has many good points, "discipline must be observed;" and it was in perfect good faith, and expressing his own opinion as well as that which he believed to be generally entertained, that an old Indian remarked to me, "We don't think much of any one's opinions here until he is a lieutenant-colonel at least." Of course in all countries opinions are often measured by the position of the spokesman; but in Europe that is not so much the case as in India, and in our happier climes it is easy to shun the society of snobs, whether social or intellectual, without becoming a social pariah. This social tendency is not corrected, but developed rather than otherwise, by a close bureaucracy such as the Indian civil service—and there is no other element in the community sufficiently strong to correct it; while it is almost justified by the extraordinary effect India has in rapidly producing intense conceit and insufferable presumption among Europeans of a low order of mind and character, whatever classes of the community they may belong to. Nothing struck me more in that country than the contrast between its elevating and even ennobling effects on those Europeans whose minds were above a certain level, and its exactly contrary effects on almost all those who were below that level. What, then, Indian society has specially to struggle against are two apparently opposite tendencies,—a slavish respect for mere position, and for exceptional power and knowledge in particular directions; and, on the other hand, excessive individual conceit and presumption. But these evil tendencies (which, curiously enough, belong also to the Indian native character) are not opposed in any such way as to counteract each other. On the contrary, they are apt to foster and inflame each other; because the old Indian justly sees that he has opposed to him an immense deal of ignorant presumption which ought to be severely repressed, while the democrat and the griffin instinctively feel that they are oppressed by an amount of tyrannical old fogyism which would not be allowed to exist in any other country. The more acute English travellers see a little of this state of matters; but everything is made as pleasant as possible to travellers in India with good introductions; and it is necessary to reside for some time in the country in order to understand what an absolute nonentity a man is in himself, and how entirely his importance, his accomplishments, his character, his value, and his very *raison d'être*, depend on the appointment which he holds. I do not at all wonder at that old sergeant in a very out-of-the-way place in the jungle, who, on being asked what he did there, answered, with some surprise, "Why, sir, I fills the sitivation." In Anglo-India you not only fill the situation; it is the situation that fills you, and makes you what you are, and without which you would immediately collapse.

These observations are necessary to explain the great superiority of Simla society, when I knew it, over the society to be found in nearly all other places in India. That superiority would not be accounted for merely by the number of high officers collected there whom a process of selection had brought to the front. In a community such as that of India, the two strong evil tendencies which I have just noticed as specially existing there, are most effectually held in check when the highest appointments are held by men of high intellect and good disposition, using the latter phrase so as to exclude alike the pharisee and the prodigal. Whenever the leaders of society are essentially commonplace men, whose only claim to distinction is that they fill the situation, society degrades

to a state which is almost inconceivable in Europe. Everything is lost sight of except the cunning faculty of serving the incompetent ruling powers so as to secure good appointments from their hands. Then rises supreme an incompetent, unintellectual, yet unscrupulous and overbearing element, which has no sympathetic relationship to the great sacrifices, the difficulties, and the future of our position in India; where true gentlemanliness disappears, intellect is undervalued, and genius is regarded as something like a stray panther or tiger. It is then, that while the people of India are treated with excessive and inexcusable arrogance, at the same time the most necessary safeguards against mutiny and rebellion are carelessly neglected; and when popular commotions do appear, they are allowed to gather head and to reach a dangerous height before anything like effective attempts are made to deal with them.

In Simla, last year, the state of matters was very different from that which I have just described. In both the viceroy and the commander-in-chief India had the good fortune to possess able and experienced noblemen, who thoroughly understood and rose to the level of the higher responsibilities of their position. This alone was sufficient to elevate the whole tone of the society about them, in a community which so readily answers to the guidance of its official leaders; and they had around them a considerable number of able, conscientious, and high-minded Englishmen. I was only at Simla during the month of May, but had sufficient opportunity of observing that Lord Northbrook might be compared not unfavourably with many of the greater governor-generals of India; and that the instinct of the people of the country, which had led them to esteem and trust him almost from the commencement of his viceroyship, was by no means an erroneous one. They are extremely acute, and wonderfully just judges of character; and I knew that their opinion on this subject was shared by many of the Englishmen who were best acquainted with India and most devoted to its interests. If the new viceroy did not equal Lord Mayo in charm of personal manner, and in power of setting every one around him to work energetically on their own lines, he possessed what is more specially needed at present, more than Lord Mayo's power of holding his great officers in hand, and of refusing to allow their specialties and crotchets being run to excess and developed to the detriment of India and of the imperial interests of Great Britain. If he had not all Lord Elgin's experience and large-minded dealing with the outlying questions of English policy, he brought to bear upon them the caution, the trained habits, the ceaseless thoughtful energy of an English statesman, in a manner which colonial and Indian officials have little opportunity of practising themselves in. If the insinuations of some of the newspaper correspondents are true, he may be deficient in Lord William Bentinck's aristocratic calmness under criticism and judicial appreciation of the value of the Indian press. But it is certain that India has in him a governor-general of high character and of pure-minded unselfish disposition, which it can greatly trust. I could not but be struck during my stay at Simla with his genuineness of character, his clearness of vision, and his unaffected kindness and consideration. Even in two mistakes which, as it seemed to me, he has made, his errors were almost redeemed by his manner of committing them. I allude to his approval of the conduct of the Panjáb officials towards Mr. Downes of the Church Mission, who made an attempt to reach Kafiristan through the Kaubul territory; and to a social question which arose between Government House and Major Fenwick of the *Civil and Military Gazette;* but in both these cases Lord Northbrook acted in an open manner, which excited the respect even of some who most differed from his conclusions. And though, of course, he is not infallible, many errors of judgment are not to be expected from him, and are more likely to arise from a supposed necessity of backing up the action of his subordinates than where he himself originates the action. For there is a white light in his mind which illuminates every object on which it shines — a searching piercing light, proceeding from the viceroy's own mind and not from the mere focussing of other rays. There is something of genius in this power which he possesses of lighting up a subject, and it is the more remarkable as existing in conjunction with his precise business habits. It struck me there was a tendency in his Excellency's mind to draw rather too decided strait lines even where conflicting interests interlap; but, truly, if he were to begin pondering over matters as a many-sided Coleridge might do, the public business of India would

come to a dead lock within twenty-four hours. If he had once formed an opinion on any subject, I doubt if it would be easy for him to renounce or modify it — though those who know his Excellency well say that he is always ready to do so whenever new facts relating to the matter come before him: but this rather supports my view; because in most great questions the difficulty is not so much to get at the facts as to perceive their relationships, and to take these latter into one comprehensive judicial view. The amount of business which he goes through is remarkable; and more than Lord Amherst was, he is entitled to say, with some surprise, "The emperor of China and I govern half the human race, and yet we find time to breakfast;" for he is exceedingly regardful of the courtesies, and of even something more than the courtesies, of his trying and responsible position. We do not hear so much of Lord Northbrook's feats on horseback as we did of those of his predecessor; but they are not less remarkable. It is only about fifty-two miles from Simla to Kotgarh; but the nature of the bridle-road is such, and it runs along the top of so many precipices, that it is rather a feat to ride over it in less than a day; and I have also heard of his lordship riding from Chini to Narkunda in a dangerously short period. I may also note the viceroy's habit of walking about unguarded, accompanied by a single friend; and have heard of his being seen alone with his son, or some other youth, after dark, close to the Ganges, near Barrackpore. This may be thought unwise courage: but, though undoubtedly courage, I am not sure that it is unwise; for really life is not worth having on the condition of its being constantly guarded. The class of men who violently assassinate in India admire this kind of courage so much that they will not readily strike at it; and most cases of assassination which occur in that country have been committed in spite of the close protection of guards. It is doubtful, however, if it be wise to have Simla so unprotected as it appears to be. I do not remember seeing a single European soldier there, unless the governor-general's band be accounted as such. The only representatives of law and order visible were two European police-officers, a few native policemen, and the governor-general's native body-guard. It would not have been difficult to have extinguished the whole government of India in one night; and a danger of that sort, however remote and unlikely, ought to be guarded against. Nothing in India was held to be more unlikely than the Mutiny — until it occurred, and even after it had commenced.

At the close of this Parliament her Majesty has acknowledged the great services of Lord Northbrook, in connection with the Bengal famine, in a manner which could scarcely have come from a ministry opposed to that which appointed him, unless his "strenuous exertions" had really merited very "high approbation." It is now seen by the public generally that he has met the great and disturbing disaster of the famine in a masterly manner. When he was exerting himself to the utmost, it was inexpedient for the viceroy to speak of the measures he was taking to meet the coming calamity, and advantage was taken of his mouth being sealed, and of his having wisely refused to prohibit the export of rice, to criticise and assail him. Whether intentionally or not, an impression was created that the viceroy did not see the magnitude of the danger, and would not of himself take energetic and sufficient steps to meet it. Highly sensational telegrams and articles to this effect appeared in rapid succession; and it was left out of mind, that on the very first report of danger, Lord Northbrook hurried down from Simla to Calcutta before the conclusion of the unhealthiest month of the year, and at once brought all his great energy to bear on the subject of the famine. He could not proclaim from the housetops any intention of buying up millions on millions of tons of rice, and, if necessary, of feeding two and a half millions of people for an indefinite period; because, to have done so would have vastly increased the difficulty by making the *bunnias* throughout India buy and store up rice right and left, and by creating a great movement into the famine-districts of people desirous of participating in the bounty of government. Also, as the event has shown, while making perfectly sufficient arrangements to meet the coming famine, the viceroy refused, on sound economic grounds, to interfere with and check private trade by prohibiting the export of rice from Bengal; and this was immediately seized upon as a proof that he did not understand the magnitude of the coming crisis, and that he required to be instructed, warned, and brought up to a sense of duty by his benevolent and

omniscient critics. It was most fortunate for India that at this crisis a thoughtful statesman was at the head of affairs, and one of sufficient force of character to disregard the outcry which was raised against him. An excellent authority on the spot, as quoted by the Calcutta correspondent of the *Times*, has well said: "It will not be denied that had it not been for the action taken by Government, the mortality would have been very great. But I am convinced that it is equally true that had Government action been of a nature to check private trade to any extent, the result would also have been calamitous. . . . I firmly believe that had Government, last November, proclaimed to the world that they intended to rely solely on their own unaided efforts to save the people from starvation, the result would have been deplorable, both financially and *in respect to the loss of life which would have ensued*." This is another very important view of the matter, and is by no means opposed to what I have said about the *bunnias;* because they would have bought and stored grain in order to sell it to the government, rather than with a view to the difficult and risky operation of conveying it into the famine-districts. The viceroy had also to guard against the danger of inviting or allowing the people within the famine-circle to rely too much on government aid, which the natives of India are always most ready to do.

The crisis of the Bengal famine of 1874 has now passed, and it is difficult to know whether to admire most the manner in which Lord Northbrook and Sir Richard Temple have dealt with it so as to prevent almost any loss of life, or their success in managing the relief operations so as to avoid pauperizing, or otherwise demoralizing, the people, and so as to bring them readily back to their ordinary industrial operations. The first of these feats was entirely new in the history of India: the second was still more difficult of accomplishment; its success presents both rulers and ruled in the most pleasing light, and is a new illustration of the readiness of the people of India to appreciate and conjoin with action on the part of Englishmen, which is at once sympathetic and decided. Large powers are necessary to deal with them in a satisfactory manner, and, to that end, these powers must be exercised with knowledge of the necessities and wishes of the people, and yet with a confidence and decision which are only accepted and only tolerable when springing from a just conviction that the action undertaken and insisted upon is in accordance with the highest intelligence and morality.

But, though unwilling to enter here on the general subject of Indian policy, I must guard against appearing, even for a moment, to support the limited view which some of Lord Northbrook's admirers and critics take of the course which is marked out for him as governor-general of our great Eastern empire, and must make a few general remarks which, though brief, are of cardinal moment. According to that view, the only matter of essential importance for India is to reduce its expenditure, and to keep that steadily within the limits of the revenue which may be afforded by the present recognized and understood taxation. It is assumed, that if that only be done, everything will go well — there will be no disaffection in India; and a grateful populace will ornament us with garlands of yellow flowers, feast us upon *pan súpári*, and shower blessings upon our honoured heads. I believe that a greater mistake could not be made, and that this would be only another side of Lord Lawrence's policy of "masterly imbecility," which has thrown Central Asia into the hands of Russia. Economy and strict financial management are very necessary in India, and the viceroy has clearly seen that, and has addressed himself to the task with extraordinary skill, energy, self-abnegation, and success. But if there is a matter on which the people of India are likely to overvalue his services and urge him to excess, it is on that of financial economy. No one admires more than I do their many admirable qualities, but among these financial wisdom cannot be reckoned. They have no objections to a native prince levying the most enormous and oppressive taxation in very hurtful time-honoured ways, and spending it in the most reckless, useless, and debauching manner. He may take half the produce of their fields, and lavish it on dancing-girls, devotees, beggars, and in support of degrading superstitions, and they are perfectly satisfied; but let the English government incur a productive new expenditure, or impose a new tax of the least hurtful kind, and they are the most oppressed and afflicted beings in the world. We hear a great deal about India being a poor country — and that is a statement

which should be taken with much qualification, for the concealed or hoarded treasure of India must be something enormous; but in so far as India is a poor country, how and why is it poor? It is poor, not from any sterility of its soil or scantiness of its products, or from any incapacity of labouring or acquiring knowledge among its people: in these respects it is one of the most favoured lands on earth. It is poor because it loves to lie down and dream rather than to rise up and work; because it hoards its wealth — buries it in the ground or sits upon it — in preference to turning it to profitable use; because, except where the pride of noble families produces female infanticide, it not only exercises no restraint upon the increase of population, but even, in accordance with its religious ideas, regards any increase, however reckless, as partaking of the merit of a religious act; and because it is absolutely eaten up by non-productive classes of people — priests, devotees, beggars, retainers, family dependants, and princes and nobles of many fallen dynasties. The most energetic and the richest country in the world could not stand what India not only bears but welcomes, without bringing itself to poverty; and if all the English Raj is to do for India is to add another class of unfortunates to it in the shape of overworked and underpaid European officials, with their descendants, then I can only say that the English Raj is extremely likely to have soon to make way for that of Russia or Germany. The essential consideration has been lost sight of, that either we ought to be in India as a nation, in our imperial capacity, or ought not to be there at all. A spurious philanthropy (the real motive of which has too often been the difficulty the civilians have had in dealing with the independency of character of outside Englishmen, and with their sometimes irrational and brutal humours) has only resulted in pushing forward a class of natives who exercise no influence over the people, are entirely mistrusted by them, and who cannot but regard us with hatred. At the same time we have ignored the primary duty of providing that the work of governing and elevating India shall not be ruinous to those who are engaged in it, or to their descendants. Hence the creation of a large and ever-increasing class of poor whites and half-castes, who are a scandal to the Christian name and the white race, having been forced by circumstances to depths of misery and depravity unknown among the jungle tribes, and hence the painful fact that the large towns of India contain a number of respectable, fairly educated English and Eurasian people who are at their wits' end how to live. The financial question is chiefly a negative one, meaning the suppression of jobbery and folly. The lasting reputation of a governor-general will depend on the services he has rendered in saving India from itself, in developing its grand capacities, and in making it an integral and valuable constituent of the British empire.

The famine has also vindicated the character of a high officer who last year was looked upon with not a little disfavour. Chiefly owing to his connection with the income-tax, no one was more unpopular in India than Sir Richard Temple, then the financial member of council, but now the lieutenant-governor of Bengal; and if he were the popularity-hunter which some people fancy him to be, he would have taken care not to associate himself with so obnoxious a tax. In various appointments, but especially as secretary to the Panjáb government and as commissioner of the Central Provinces, Sir Richard had proved himself to be an officer of very great ability and of the rarest energy. In the Central Provinces, development, which was forced on by circumstances, and which might well have occupied a century, had to be provided for and regulated within a few years; and this was admirably effected by the commissioner, so as to gain for him the very highest repute as an organizer and administrator. It is sometimes said that he has great powers of using other men's brains; but that is really one of the most important qualities for a high Indian official, as for all leaders of mankind, and I never heard the slightest complaint made on that score by the men whose brains he had used. On the contrary, they said he had made a legitimate and the best use of their work, and was always ready to advance the fortunes of those who served under him — a generosity which is seldom, if ever, displayed by humbugs and men of small calibre. I thoroughly believe that the income-tax was a most unsuitable tax for India, and that Lord Northbrook rendered a great service by putting an end to it, let me hope, for all time; because it brought in an insignificant sum (to the government), did not touch the really wealthy classes,

and caused an immense deal of oppression and irritation: and I should doubt the legislative capacity and higher statesmanship of any one who upheld the income-tax in India, and do not think Sir Richard Temple showed to advantage as a financier and member of council; but the Bengal famine has happily served to display his great powers. One of his invaluable qualities as an administrator is his extraordinary and almost instinctive knowledge of character. He is said — and I can well believe it — never to make a mistake in choosing his agents, almost never to overlook a man of ability who comes within his sphere, or to set men to unsuitable work. One of the correspondents of the home press, seeing Sir Richard at work in the famine-districts, well remarked that nature seemed to have intended him for the command of a great army. His reticence and almost taciturnity struck me as a very agreeable variety from the pomposity of certain Bombay officials, who turned up the whites of their eyes and really appeared to become ill when any one whom they imagined did not stand upon their own fancied level spoke to them consecutively for half a minute. Sir Richard does not imagine that wisdom of every kind, or even a knowledge of India, is confined to his own bosom, and is more anxious to learn the opinions of others than to volunteer his own. This is a very frequent characteristic of great men of action; and another impression which they leave, and one he conveys, is that of possessing a large fund of reserve power. I may add that, like Lord Northbrook, he practises as an amateur painter, besides having time to take his breakfast; and some of his sketches struck me as showing a very remarkable power of understanding and artistically reproducing the life of trees. He has also done much to promote archæological research in India, and almost every kind of intellectual development.

The new financial member of council is Sir William Muir, whom I have already alluded to in his position as governor of the North-West Provinces. No member of the Civil Service is more generally respected, or could be more valuable in the consultative department of the Indian government. An accomplished oriental scholar, especially in Mohammedan literature and history, he is equally distinguished as an administrator. Though Sir William is cautious, and what is called "a safe man," yet as a lieutenant-governor he showed that, when his ripe judgment was convinced, he could take a course of his own in direct opposition to the strong tendencies of the supreme government. Notably this was the case in regard to the income-tax, to the oppressive working of which he called attention in the most effective manner, at a time when the higher powers were determined that it should appear only in a roseate light. In the North-West Provinces, however, while personally liked, much animosity was excited, especially among non-official Englishmen, by what was considered to be his undue favouritism towards what are called the educated natives. I was somewhat surprised at the depth and fierceness of the resentment which had thus been excited. One man, in a responsible position, went so far as to say that the next rebellion in India would be on the part of the Europeans and Eurasians, and that, when such a movement arose, every English soldier who had been six months in the country would be on their side. This may appear very absurd to Indian officials, who know little of the passions raging in the hearts of the people round them, whether natives or Europeans; but I think there is something in it, and that it correctly enough indicates the existence of feelings which are not without some ground. Another remark of this man, who was educated, shrewd, and had a wide and varied experience of the world, is worth noting, without attaching to it more importance than it deserves. He said: "The civilians think that India was made for themselves and the natives alone, and it is becoming every day more impossible for non-official Englishmen to live in the country; but the natives are discovering that the civilians are quite unnecessary also, and it will end in our all having to go together — the Englishmen to England, and the natives to massacre, famine, and pestilence."

Of the commander-in-chief in India, Lord Napier of Magdála, it would be difficult to write in terms of too high praise. His capacities as a soldier are well known, having been abundantly proved in India, Abyssinia, and China; and his thoughtful care for the wellbeing of the troops under his command, and great consideration for the most of those with whom he comes in contact, have made him hosts of friends. I say "the most" advisedly; for Lord Napier has the character of being a good hater. As Lord Northbrook, also, he has a very

keen sense in detecting humbug in any one — perhaps too keen a sense for the present state of human development — and is apt to act upon it occasionally in a manner unpleasant to the person in whom he detects it; but that is only after he has made up his mind against a man. I had come across his Excellency before, on the march to Peking, and was struck by his vivid recollection, after so many years, of the China Englishmen who accompanied the Peking expedition, and by his happy manner of sketching off their peculiarities. One man was "always producing dead birds out of his innumerable pockets;" another "had a way of disappearing for days among the Chinese, and throwing the whole expedition into anxiety for his safety," — and so on. Notwithstanding his long and laborious services in India, there seemed no failing either of mental power or physical endurance in the commander-in-chief; and the officers at Simla said he could easily take the field again, as his conduct at the camps of exercise sufficiently proved. He has the eagle eye of a great soldier, and when he retires from India he may render great services to the State in connection with the English army and its organization. I should think no commander ever was a greater favourite with his troops, or knew them better, or knew better how to manage them, or devoted himself to their welfare in a more persistent or more enlightened manner. At the dinner given to Lord Napier by the Anglo-Indians in London, on the occasion of his having been created a peer, he said, in effect, and almost in these words, — "I landed in India a young officer of engineers, with only my sword, and now it has come to this." There was a simplicity and an honest healthy pride in the remark, which had nothing of vanity in it. I have met men who thought that, as peerages go, he had got his peerage rather easily by the Abyssinian war; but I never heard any even of these critics grudge it to him in the least. It is true that the China war of 1860 was scarcely less difficult or brilliant, and was productive of more important results; and the fact that Sir Hope Grant got no high reward for his skilful and humane conduct of it goes some way to prove that Sir Robert Napier was fortunate in the time and circumstances of his Abyssinian campaign; but he was under a great temptation to enter on that campaign without the means necessary to carry it to a successful conclusion. Many an officer would have snatched at the opportunity without stipulating for all the requisite means; and, even as it was, the most skilful use of them was necessary to accomplish the end which the expedition had in view, if not to save it from absolute ruin. It should be borne in mind, also, that Lord Napier's command in Abyssinia was only the last of a series of brilliant and valuable services which had commenced almost from his landing at Calcutta, fresh from Addiscombe, forty-six years ago. In the battles and sieges of the Panjáb; as chief-engineer of that province, when so much had to be done upon its transit to English rule; as chief-engineer of Lord Clyde's army during the Mutiny; in the pursuit of Tantia Topee; in China, where he planned the capture of the Taku Forts, and was second in command of the expedition; and in Bombay as commander-in-chief, — the officer of whom I write had rendered services which might have made half-a-dozen great reputations; so that, even as peerages go, his was fully due by the time he had taken the heights of Magdála. I was much indebted to his Excellency and his military secretary, Colonel Dillon, for maps, advice, &c., in regard to my Tibetan journey; and their genuine kindness of disposition at once established confidence and gave a charm to all intercourse with them. The relationship between these two distinguished officers has been a long and close one. Colonel Dillon's popularity is somewhat diminished by the fact that devotion to his work hardly allows of his going into society; but his value to the commander-in-chief and to the Indian army is very great.

Of the other Simla celebrities whom I had the pleasure to meet with I can only write briefly. Mr. C. U. Aitchison, the foreign secretary, has more of the European statesman about him than almost any other Indian civilian; and one cannot fail to see that he has a great deal of weight of brain, and of that quality which is most easily described by the phrase "long-headedness." He was one of the very first of the competitionwallahs. Some very excellent men came forward at first under the competition system, and continue to do so occasionally; but of late the system has become one of cram, and the best men from the universities and elsewhere are chary of entering into a competition in which success can only be hoped for by disregarding the aims and methods of a liberal education,

and putting one's self under a system of mental development analogous to the physical training which Strasburg geese are compelled to undergo. Lord Dalhousie, who had a keen eye for young men of ability, selected Mr. Aitchison as his private secretary at an early period of the latter's career, and few positions can afford so wide and complete a view of the methods and results of the Indian government. The heavy crushing work of the Foreign Office has been borne by Mr. Aitchison in a manner which proves his tenacity of purpose and strength of constitution; but there is too much reason to believe that its overwhelming demands had undermined the strength of Mr. Le Poer Wynne, one of the most accomplished and promising of the younger Indian officials, whose sudden death a few months ago deprived Mr. Aitchison of one of the most useful and valued of his associates in the Foreign Office. Mr. Chapman, the financial secretary, is a fine specimen of the bluff, independent English gentleman, who will take his own way wherever possible, and fearlessly avow and carry out his opinions. He also upheld the unhappy income-tax; but in other questions his usually sound judgment and independence of character have proved most useful, especially in the stand he has made against the Ritualists — or Anglo-Catholics, as they prefer to be called — who had become more daring and triumphant in India than they had ever been in England. Mr. Forsyth, when I was at Simla, was preparing for his second Yarkund mission, and I did no more than make his acquaintance, but was struck by a certain lofty protesting manner he had; for he was still under the cloud of the Kuka executions, and of the sentence of removal from his commissionership, and of general disapproval of his conduct in connection with the Kukas, passed upon him by the government of India, when its ruling spirit was Sir John Strachey, in the period between the viceroyships of Lord Mayo and Lord Northbrook. The ex-commissioner, however, has now performed his pilgrimage; he has washed away his sins, real or alleged, in the sacred waters of the Yangi Hissar, and, as Sir Thomas Forsyth, clothed in the garments of a Knight of the Star of India, he can move again freely in the arena of Indian politics. I saw a good deal more of the lamented Dr. Stolicza, and well remember his saying, in a common foreign idiom, "I am awfully glad that I have been allowed to go to Yarkund." He was destined never to return from the sterile regions of Central Asia; but perhaps, as human life goes, even that was a reason for being glad. I was surprised to find so youthful a figure in the *vir sapiens, doctissimus*, Dr. W. W. Hunter, who has been harassing the souls of Indian officials and editors by his system of spelling, which, however, is his only in that he has modified a long existent system, practically applied it, and carried it out for the government. This gentleman is as agreeable in society as in his charming books, and it is only to be regretted that he does not trust more entirely to his culture and talents for both social and official success. Major Fenwick, the journalist, who makes Simla his headquarters, is a man of bold, independent spirit, with an immense amount of humour, a lively imagination, and great literary knowledge. In the Rev. John Fordyce of the Union Church I found an old friend, who had created a high reputation for himself by his combination of prudence and zeal. Nor can I omit to make mention of Mr. Edmund Downes, whose courageous attempt to reach Kafiristan in disguise had brought him into public notice; and of two Bombay officers, Colonels Ker and Farquharson, who did a great deal to make my stay at Simla agreeable.

The hill on which Simla is situated was first made known by the visit to it in 1817 of the brothers Gerard, two Scotch officers who were engaged in the survey of the Sutlej valley; and the first house was built upon it in 1822 by the political agent of the district. About that latter year it was purchased, by exchange, by the British government, from the Rana of Keonthul, and made into a regular sanitarium. The first governor-general who visited it was Lord Amherst, in 1827. Jacquemont described it as having sixty houses for Europeans in 1831; and Lord Auckland was the first governor-general to spend a summer there — that of 1841. The annexation of the Panjáb gave a great impetus to the development of this hill-station. Lord Dalhousie liked to establish the headquarters of his government there in summer, because that allowed him to reside much during the rains in the drier region of Chini, which suited his health. Lord Lawrence accepted the viceroyship on the express condition that he should be allowed to spend the summer on the hills, Simla being the most convenient spot; and

thus the arrangement has continued, except that the exigencies of the Bengal famine have led the supreme government to remain in Calcutta this year. In the height of the season Simla has now usually a population of about fifteen hundred Europeans, and as many thousand natives. In a former article I have briefly described its general appearance and surrounding scenery. One of its drawbacks is a deficiency in the supply of water; but this might easily be remedied, at some expense, and probably would be if the house-proprietors were assured that the supreme government intended to continue its summer residence there; though I do not quite see how that doubt should be allowed to have so much influence, because many of them argue that the example of Masúri has shown that Simla might flourish even if it were unvisited by any government, and might thus secure a less uncertain income. The permanent residents of the place are enthusiastic in their praises of its winter climate, and that is really the only season of the year in which Simla is calculated to do much positive good to invalids, the cold then not being extreme, while the air is still, dry, and both invigorating and exhilarating; but it is as a retreat in the hot weather of April and May, and of the rains, that it is most used, and I do not know that much can can be said in its praise as a sanitarium during that long season. Of course it is a great thing to escape from the fiery heat of the Indian plains in April and May, and from their muggy oppressive warmth during the five succeeding months; but that is about the extent of the sanitary advantages of Simla in summer, and the climate then has serious drawbacks of its own. I derived no benefit from it, nor did any of the invalids there with whom I was acquainted; and its effects upon some of them were such that they had to leave before the stay they had marked out for themselves had been accomplished. In May the climate was exceedingly changeable, being sometimes oppressively hot, but for the most part cold and damp, with thick mists and fierce storms of thunder and rain. And when the great rains of the south-west monsoon set in upon Simla, there must be few invalids indeed for whom it can be a suitable place of residence; and I should think at that season, or for nearly four months of the year, a state of almost robust health must be necessary in order to derive benefit or enjoyment from a stay there. It would be well if more invalids at that season followed the example of the great Lord Dalhousie and went up to Chini, or to some other place, where they are close to eternal snow, and are protected by a snowy range from the Indian monsoon.

Whether the traveller be in search of health, or sport, or sublime scenery, there is no other place from which he can have such convenient access as Simla to the interior of the Himáliya, and to the dry elevated plains of Central Asia. Routes proceed from it up to Chinese Tibet on the east; to Ladak and the upper Indus valley; beyond Ladak to the Karakorum mountains and Yarkund; to Spiti, Lahaul, Zanskar, and all the elevated provinces of the Western Himáliya; to Chamba and all the other hill-states to the north-west; and to Kashmir, Little Tibet, Gilgit Yassin, and the "Roof of the World" itself. Indeed, now that the Russians have established a post-office at Kashgar, it would be quite possible, and tolerably safe, to walk from Simla to St. Petersburg, or to the mouth of the Amur on the Pacific coast. Those who wish particularly to know what can be done from Simla will do well to examine the "Route Map for the Western Himáliyas, Kashmir, Panjáb, and Northern India," compiled by Major Montgomerie of the Great Trigonometrical Survey of India. In the appendix to this map he gives no less than sixty-three routes, almost all of which either proceed from Simla or are connected with it by intervening routes. It will soon be seen, from the major's remarks on these various routes, that the traveller in the Himáliya must lay aside his ordinary ideas as to roads and house-accommodation. Such references as the following to the roads and halting-places for the night, occur with a frequency which is rather alarming to the uninitiated: "No supplies;" "ditto, and no fuel;" "cross three miles of glacier;" "very bad road;" "ditto, and no supplies;" "road impassable for ponies;" "rope bridge;" "cross the river twice — very difficult to ford;" "Kirghiz summer camp — yaks, &c., supplied;" "site of a deserted village;" "muddy water only can be got by digging holes;" "grass doubtful, no fuel;" "ford river, water up to waist;" "cross river on *mussaks;*" "generally a Tartar or Boti camp;" "cross the Tagalank Pass, 18,042 feet;" and "cross several torrents."

The great routes from Simla are those

which lead to Chinese Tibet, to Ladak, and to Kashmir, and run from north-east to north-west. The road towards Chinese Tibet, at least as far as Chini and Pangay in the Sutlej valley, is that which is most affected by tourists, because it is a cut road on which a *jhampan* can be carried, and because it has bungalows which were constructed for the road-engineers, and are available for all European travellers. Shipki in Chinese Tibet is only about eight marches beyond Pangay, but the road is so dreadful that few travellers care to go beyond the latter place; and those who do, avoid the Chinese border and turn northward towards Leh in Ladak by Hango, Lio, the Parangla Pass, and the Tsho Morari Lake. There is a more direct route from Simla to Leh, along a cut road or bridle-path, through the Kúlú valley, over the Rotang Pass, and then through Lahaul, and over the Barra Lacha Pass. The directest route from Simla to Kashmir is that by way of Belaspúr, Kangra, Badrawar, and the Braribal Pass, and occupies only about thirty-one marches; but it is rather uninteresting, and enterprising travellers prefer to go round by Leh, or to follow some of the many ways there are of passing through the sublimer scenery of the Himáliya.

It is comparatively easy to go from Simla direct, either to Chinese Tibet or to Kashmir; but to take in both these *termini* in one journey is a more difficult problem. That was what I wished to accomplish, and to have come down again from the Chinese border towards Simla, and then gone up to Kashmir by one of the directer routes would have brought me into the region of the Indian monsoon at a season when it was at its height, and when it would have rendered hill-travelling almost impossible for me. What then seemed the proper thing for me to do, after touching the territory of the Grand Lama, was to keep as high up as possible among the inner Himáliya, and to see if I could reach Kashmir in that way, without descending either into hot or rainy regions. I could not get any information as to considerable portions of my proposed march; but, as it turned out, I was able to go all the way from Shipki in Chinese Tibet to the Sind valley in upper Kashmir, along the whole line of the Western Himáliya, if not exactly over the tops of them, yet something very like that, through a series of elevated valleys, for the most part about twelve thousand feet high, with passes ranging up to eighteen thousand feet. Thus, passing through Hangrang, Spiti, Lahaul, Zanskar, Súrú, and Dras, I never required to descend below ten thousand feet, and very seldom below twelve thousand; and, though travelling in the months of the Indian monsoon, I met with hardly any rain, and enjoyed a most bracing and exhilarating climate, together with the great privilege of beholding the wildest, sublimest scenery of the Himáliya, and making acquaintance with the most secluded and primitive of its people.

I must hurry on, however, to the events of my own journey; but before treating of them it may be well, in order to make these events intelligible, to say something about what is necessary for travellers in the Himáliya. Journeying among these giant mountains is a somewhat serious business, and yet it is not so serious as it probably appears to those who have had no experience of it. In Switzerland, when essaying icy peaks and crossing snowy passes, we never get farther off than a day or two from some grand hotel, where all the comforts, and many of the luxuries of civilization are to be found; and even then considerable preparations have to be made for remaining two or three days beyond human habitations, and for sleeping in a cave or hollow of the rock. But for a journey like mine, in the inner Himáliya, extending over months, the preparations which have to be made are of rather an alarming kind. House, furniture, kitchen, cooking-pots, bed, bedding, a certain proportion of our food; and all our potables, except water, have to be carried with us, for the most of the way on the shoulders of men or women; and, in my case, the affair was complicated by my having to be carried also; for, at starting, I was unable to walk a hundred yards, or to mount a horse. Almost no bungalows were to be met with beyond the first fourteen marches up to Pangay; in a considerable portion of the country to be traversed the people will not allow Europeans to occupy their houses—and even if they did, motives of comfort and health would dictate a tent, except in very severe weather; for the houses are extremely dirty and ill-ventilated, and the mountaineers are covered with vermin. Of course, too, one is far more independent in a tent; and there is no comparison between the open camp, under trees, or the protection of some great rock, and a low-roofed, dark, unventilated, dirty room alive with insects.

A tent, then, is the first necessity to look after, and that matter is much simplified by the fact that, there being almost no level ground in the Himáliya, it is useless taking any tent but one of very small dimensions. The tremendous slopes and precipices of these mountains were not made for the large canvas houses which Indian officials carry about with them on the plains. I have travelled for a whole day before finding a piece of level ground the size of an ordinary drawing-room, and have had to pitch my tent in such a place, that two steps from my own door would have carried me over a precipice — a position evidently unsuited for somnambulists, and for travellers of a very convivial turn of mind. Fortunately, when I told Lord Napier of Magdála of my intended journey, he said to me, "Have you got a tent yet? No. Then don't get one till you see the tent which I used in Abyssinia." This historical tent he kindly had pitched for me, and I got a facsimile of it made in Simla at the exceedingly reasonable price of seventy rupees (about £7), my butler being a great hand at making bargains. It was made of American drill, with a double fly, which was invaluable for keeping off rain and heat. Its floor, and up to where the roof began to slope, at three feet from the ground, was about eleven feet by nine, and its extreme height between seven and eight feet. It was supported by two upright bamboos, and a bamboo across them fitting on iron spikes. Properly speaking it had no walls, but ropes attached to the outside of the inner fly, about three feet from the ground, gave it a perpendicular fall of that height. It had not a pyramidal, but a very blunt wedge-like form; and the cloth of both front and back opened completely from the top to the ground, or could be kept quite closed by means of small hooks, while in both back and front there was a small upper window, with a flap to cover it. This habitation was so light that one man could carry it and the bamboos, while its iron pegs were not a sufficient load for one coolie, and it was wonderfully roomy — more so than tents of much greater dimensions and of more imposing appearance. It was a convenience, as well as a source of safety, to be able to get in and out of it at both sides without stooping down; and its coolness, and its use as a protection from the sun, were greatly enhanced by its allowing of either or both ends being thrown entirely open. I never fell in with any tent, except the model on which it was made, to be compared with it for combined lightness and comfort, and I have seldom found so pleasant a habitation. It is necessary to have iron pegs for such a tent, owing to the nature of the ground and the scarcity of wood in the high mountains; and a double supply of bamboos should also be taken. A good thick piece of carpet, about three and a half feet long by two and a half broad, is a great comfort, especially on snow. All jimcrack articles are utterly useless for the Himáliya, because everything gets knocked about in a fearful manner; and as a good night's rest is of the utmost importance, I got Messrs. Cotton & Morris of Simla to make for me specially one of their travelling-cots which take to pieces. It was composed of two short and two long poles of strong wood, which went into sockets in four thick strong wooden legs. When this was set up, a piece of strong carpet was stretched over it tightly in a peculiar way, which I have not space to describe. My table, which could also be taken to pieces, weighed only a few pounds; and I took with me a light cane chair, which could always be mended with string, twigs, or something or other; but a folding Kashmir chair would have been much better. These things, with washing-apparatus, a couple of *resais* or padded quilts, a plaid, and a waterproof sheet, were quite sufficient to start me in Himáliyan life so far as my residence was concerned. Some travellers take portable iron stoves with them for their tents, but I rather think the heat thus obtained unfits one for bearing the cold to which we are necessarily exposed. My tent allowed of a fire being kindled close to the entrance, when wood could be had, and I found it was only the damp cold of regions with plenty of wood that was injurious. For my servants I had a good *rautí* of thick lined cloth, which kept them quite comfortable; and I cut down their supply of cooking-pots and personal luggage as far as was at all compatible with their comfort and mine.

As regards provisions in the inner and higher Himáliya, the traveller will find that there are juniper-berries growing nearly as high as he is likely to camp, edible pines up to about twelve thousand feet, and apricots nearly to ten thousand. Wherever there are villages, milk, mutton, and coarse flour of various kinds are to be had; but that practically exhausts the list of Himáliyan supplies, except for the sportsman; and, on a long journey, hu-

man stomachs desiderate a greater variety. The junipers are of immense size and powerful flavour; but most people prefer to have their junipers by way of Holland or Geneva. There is prime mutton to be had in all parts of the mountains, not to speak of shaggy sheep about the size of reindeer; but the acute hillmen are by no means fond of parting with it, and are apt to insist that they have nothing else to offer you, either for love or money, except a fleshless lamb—evidently destined, even by nature, to an early doom—or an ancient ram which has been used for years as a carrier of burdens. As to milk, it is an innocent and excellent article of food; and those whose stomachs dislike it when sweet, can follow the example of milk-drinking nations, and take it when it is sour and curdled, thus saving their stomachs a good deal of trouble; but it takes at least six quarts of milk daily to afford very scanty sustenance to a full-grown man, and by the time the traveller begins upon the fourth bottle he is apt to wish that it were something else; and I suspect that, in these circumstances, and when seated on a bank of snow, even the sternest teetotaller would not be averse to mingling a little rum with his milk. The flour to be had is often very bad, being ill ground and mixed with dirt; so it is expedient both to have some fine European flour, and when we meet with good mountain flour to take some of it on with us for the next few stages. Perhaps the best article of this kind to be got is the roasted barley flour which the hillmen take with them on their journeys, and which, with the aid of only a little salt and cold water, they make into a very eatable dough called *suttú*. The sportsman, however, can supply his pot with many tempting edibles. I know of no flesh equal to that of the ibex; and the *navo*, a species of gigantic antelope of Chinese Tibet, with the *barra-singh*, a red deer of Kashmir, are nearly equally good. Though these animals are difficult to get at, yet portions of them can sometimes be obtained from native shikarries; and my Bombay servant, with his gun, supplied me with many pheasants and partridges—of which the Himáliya can boast the most splendid variety—and with any quantity of large, fat, blue pigeons, of which there are great flocks wherever there is a village with grain-fields round it. All the way from Kotgarh, four or five marches from Simla, to Chinese Tibet, and from thence to Súrú, a dependency of Kashmir, I did not find a single domestic fowl, and felt much the want of eggs. Colonel Moore and Captain de Roebeck, whom I met at Kotgarh on their way back from Spiti, spoke of having made the acquaintance, in that province, of some very bony fowls, which required to be pounded with rocks in order to make them eatable; but I believe these gentlemen must have eaten up all the fowls of Spiti, and put an end to the breed. Both the Hindu Kunaits and the Lama Búdhists object on religious grounds to supplying travellers with eggs and fowls; so it is not till one gets to Mohammedan Kashmir that these useful articles of diet are to be met with. Also till near Kashmir the streams are far too muddy, rapid, and difficult of approach, to afford fish, though one traveller in a hundred may have some offered to him. A species of turnip is to be found at some villages, and potatoes and various vegetables are grown by the Moravian missionaries at Kaelang in Lahaul, and Pú in Upper Kunáwar; but practically, as I have said, the traveller will find that he has nothing to depend upon except milk, mutton, coarse flour, edible pines, apricots, and junipers. The want of vegetables is most severely felt, owing to the acids which they supply; but I found that dried apricots were an excellent substitute for them, especially the dried apricots of Baltistan, which are highly valued by the hillmen, and may be purchased from parties of Baltís, or from the wealthier zemindars. The kernels of their seeds also are quite eatable, and, taken with the dried flesh of the apricot, make a combination not unlike that of almonds and raisins. It is well, however, to take a certain amount of compressed vegetables on a long journey into the Himáliya, and tins of soup containing vegetables will be found useful. Hotch-potch especially is of the greatest service because by itself it affords a sufficient and comfortable meal, and it stood me in good stead when my people were all too much fatigued to have prepared any more elaborate dinner. There is, in fact, nothing like hotch-potch for the Himáliyan traveller; the only objections to it are its weight and bulk, when tins have to be carried by coolies for months. This difficulty I partially met by taking with me a quantity of the *soupe à l'ognon au gras* of MM. Usines Chollet et Cie. of Paris. This soup, which, as its name indicates, is composed of onions and rich meat, is in small oblong tins about the

cubic capacity of an ordinary soup-tin of one pound weight. Each tin contains thirty portions of soup in tablets, which only require to have boiling water poured upon them in order to make a nourishing and very palatable soup. I scarcely think one portion will make a sufficient basin of soup as one takes soup on a journey, but one and a half will; so that a single tin, which might be carried in an outer pocket, provides a single traveller with abundance of soup for his dinner for twenty days; and I had one tin open for thirty-six days in August and September, when it had to go through a good deal of heat, without the last tablet used being in the least spoiled. Onion-soup, I may mention, has been found of great use by Arctic expeditions in the extreme cold to which they are exposed. The few tins of preserved meat I took with me were of little use, for one wants more particularly to supplement the local supplies with light articles of diet; but an exception should be made in favour of tins of half-boiled bacon, which are exceedingly acceptable in high cold regions. Tins of salmon are a great stand-by, being invaluable for affording a substantial cold breakfast at the mid-day halt, when the traveller is as hungry as a hunter, and when, if he gives way to his inclinations, a pound tin will disappear before him in a few minutes. Tins of fresh white fish, and of any uncompressed vegetables, except, perhaps, peas, are of no use; but Finnan or Findon haddocks are, with boiled fowl and small tins of potted meat, and of sardines preserved in butter. But it is evident that we are thus in danger of running up a train of fifty coolies, at least at starting, and it was only by the greatest care both in choosing and in using these supplies that I was able to start with little more than two coolies' load of tins, and yet to keep coming and going on them for months. Skill of this kind can only be obtained by experience in travel, and it is essential, in order to make the supplies go any distance, peremptorily to forbid one's servants to open a single tin without express permission.

As twenty full quart-bottles are about a coolie's load, it is advisable to be as discriminating in the selection and use of potables as of edibles on a Himáliyan journey. Wine, to any extent, and beer, are out of the question; for it must be remembered that it is sometimes difficult to get even the dozen coolies which are required to carry one's tent and other necessaries; and the duty of *bigár*, or carriage, presses so heavily at times on the villages of the Himáliya that it is but right for the humane traveller to avail himself of it as lightly as he can. Those who usually conform to the ordinary habits of civilized life, which are very well adapted for brain-work and for sedentary habits, will be surprised to find how easily they can conform to a simpler *régime* in the Himáliya; for in the keen stimulating air of these mountains there is not only very little need for alcoholic stimulants, but also very little desire for them.

However perfect our other arrangements may be, there will be little comfort on a long mountain journey without exceptionally good servants, who will enter a little into the spirit of the journey; and it is exceedingly difficult to get Indian servants who will do anything of the kind. As a rule they do not like travelling, unless it be in the comfort and state of a commissioner's or collector's camp; and they have a great dread of cold regions in general, and of snowy mountains in particular. The consequence is, it is difficult to get respectable servants to go up into the mountains; and Simla is famous for its bad servants, though I noticed that almost every station I came to deemed itself more unfortunate in that respect than its neighbours. The plague of servants, everywhere considerable, has now become very serious in India. There has been no legislation of late years on this subject adapted to the circumstances of the country; and old arbitrary practices for keeping servants in order can be very rarely resorted to, and are not in themselves desirable. There has been too little care taken in valuing good servants, and too little trouble in having bad ones punished. The native Indian journals have some reason on their side when they argue that, if we are afflicted with very bad servants the fault is much our own, inasmuch as we have made them what they are. I notice, however, that the earliest accounts of Anglo-Indian life speak of two very different types of servants, very much corresponding to the two great types of the present day. The misfortune is that, since the Mutiny, the number of servants of the good type has decreased, principally owing to our lessened family interest in India; while the bad servants have found increased immunity under the almost necessary but overdone protection of legal equality with their masters, and with the greater opportunities which they now possess of moving from station to station, and of employing

each other's, or forged certificates. But there are very good servants to be had still in India, and care should be taken not to confound them with the rascals, or to treat them with harshness and distrust. On this Himáliyan journey I was singularly fortunate. About a year before, after having been afflicted with some of the worst servants to be found anywhere — men whose conduct would really have justified homicide — I found a treasure at Násik, in the person of Silas Cornelius, a native Christian, but a Marátha from the Nizam's dominions, who had been brought up in the schools of the Church Mission near Násik. In steadiness, in honesty, in truthfulness, in faithful service, in devotion to the interests of his employer, and in amiability of disposition, I never knew of any servant who surpassed or almost equalled Silas Cornelius; and his good conduct on my mountain journey was the more remarkable, as he had been led into it step by step, as I myself had been, and would never have left Bombay on any such undertaking. "Very hard journey this, sir! Very hard journey!" was his only remonstrance in even the worst circumstances; and it was accompanied by a screwing of the mouth, which was half-pathetic, half-comical. Not that Silas was without his foibles. When he found himself in the mountains with a gun slung behind his back, and was made the *shikár* of the expedition, as well as my butler, this mild and amiable individual assumed a most warlike appearance and air; he tied up his moustache in Marátha fashion, and made the other servants call him Jemadar. He also became fond of too promptly ordering the coolies about, but as the hillmen paid very little attention to this, it did not much matter. The value of this butler was equalled by that of a very bright, intelligent little Kunait boy about fifteen, called Nurdass, whom I picked up at Shaso, close to the Chinese frontier, and who, as he spoke Tibetan and Hindústhani, as well as his native Kunáwari, served me as interpreter on great part of my journey, besides being useful in a hundred different ways. These were the two gems of my small *entourage*. A Kunáwar Munshi called Phooleyram, who went with me from Kotgarh as far as Kashmir, was chiefly of use in getting my tent and bed put up. The only other regular attendant I had was an Afghan cook called Chota Khan, or the "Little Chief," — a man of great size and weight, of rather bullying propensities, though very useful on a journey, who kept everybody except myself in awe, and who was afraid of nothing except of crossing a *jhúla* or twig-bridge. Whenever a young lamb or ancient ram was brought to us for sale, the way in which Chota Khan bellowed out thunders of abuse (chiefly with an eye to the satisfaction of his own capacious stomach) was exceedingly useful, and really frightened the astonished *lambadars*. It was a great pleasure to everybody when we came to a *jhúla*, because then the giant died, the hero broke down utterly, and had to be silent for the rest of the day, — until in the evening among his pots and pans, and after cutting the throat of a sheep in orthodox Mohammedan fashion, with an exclamation which sounded much more like a curse than a blessing, he became himself again. All the other people I required, whether coolies, guides, or yakmen, were had from village to village. At Simla I engaged eight *jhampanwallahs* to carry me in a *dandy*; but after five days this agreement was ended by mutual consent, and I depended entirely on people taken from stage to stage, and on *ghúnts* and *yaks*.

Thus it may be understood with what appliances of travel I started from Simla in the commencement of June; but it was not until after the experience of a few days' journey, and I got to Kotgarh, that I managed to bring things into order, and was able to cut down the twenty-eight coolies with which I started to about twelve (or double that number of boys and women at half-pay), exclusive of those I might or might not need for my own carriage.

From Good Words.

FATED TO BE FREE.

BY JEAN INGELOW.

CHAPTER IX.

SIGNED "DANIEL MORTIMER."—CANADA.

"The logs burn red; she lifts her head
For sledge-bells tinkle and tinkle. O lightly swung.
'Youth was a pleasant morning, but ah! to think 'tis fled,
Sae lang, lang syne,' quo' her mother, 'I, too, was young.'

"No guides there are but the north star,
And the moaning forest tossing wild arms before,
The maiden murmurs, 'O sweet were yon bells afar,
And hark! hark! hark! for he cometh, he nears the door.'

"Swift north-lights show, and scatter and go
How can I meet him, and smile not, on this cold shore?
Nay, I will call him, 'Come in from the night and the snow,
And love, love, love in the wild wood, wander no more.'"

AN hour after the conversation between Brandon and old Daniel Mortimer, they parted, and nothing could be more unlike than his travels were and those of the Melcombes. First, there was Newfoundland to be seen. It looked at a distance like a lump of perfectly black hill embedded in thick layers of cotton wool; then as the vessel approached, there was its harbour, which, though the year was nearly half over, was crackling all over with brittle ice. Then there was Halifax Bay, blue as a great sapphire, full of light, and swarming with the spawn of fish. And there was the Bras d'Or, boats all along this yellow spit of sand, stranded, with their sails set and scarcely flapping in the warm still air; and then there was the port where he was to meet his emigrants, for they had not crossed in the same ship with him; and after that there were wild forests and unquiet waters far inland, where all night the noise of the "lumber" was heard as it leaped over the falls; while at dawn was added the screaming of white-breasted fowl jostling one another in their flight as they still thronged up towards the north.

We almost always think of Canada as a cold country. Its summer counts for little; nor meadow-grass waist deep, over which swarms of mosquitoes hover, tormenting man and horse; nor sunshine that blisters the face, nor natural strawberry-grounds as wide as Yorkshire, nor a sky clearer, purer, and more intensely blue than any that spans Italian plains. No; Canada means winter, snow, quivering northern lights, log-fires, and sledge-bells!

Brandon found Canada hot, but when he had finished his work there, he left it, and betook himself to the south, while it became the Canada of our thought.

He went through the very heart of the States, and pleased himself with wild rough living in lands where the rich earth is always moist and warm, and primeval forest still shelters large tracts of it.

Camping out at night, sometimes in swampy hollows, it was strange to wake when there was neither moon nor star, and see the great decaying trees that storm had felled or age had ruined, glow with a weird phosphorescent light, which followed the rents in them, and hovered about the seams in their bark, making them look like the ghosts of huge alligators prone in the places they had ravaged, and giving forth infernal gleams. Stranger yet it was to see in the dark, moving near the pine-wood fire, two feeble wandering lights, the eyes of some curious deer that had come to gaze and wonder, and show its whereabouts by those soft reflections.

And then, when he and his companions wanted venison, it was strange to go forth into the forest in the dark, two of them bearing a great iron pot slung upon a long rod, and heaped with blazing pine-cones. Then several pairs of these luminous spots would be seen coming together, and perhaps a dangerous couple would glare down from a tree, and a wounded panther would come crashing into their midst.

After that, he went and spent Christmas in Florida. He had had frequent letters from home and from his stepfather. He wished to keep away till a certain thing was settled one way or the other, but every letter showed that it was still unsettled; the sea-nymph that he had been wasting his heart upon had not yet decided to accept his brother's, but there was every likelihood that she would.

As time went on, however, he felt happy in the consciousness that absence was doing its work upon him, and that change had refreshed his mind. He was beginning to forget her. When the woman whom one loves is to marry one's brother, and that brother happens to be of all the family the one whom one prefers, what quality can be so admirable as inconstancy?

Still, for a man who was really forgetting, he argued the matter too much in his mind. Even when he got

far south, among the Florida keys, and saw the legions of the heron and the ibis stalking with stately gait along the wet sand, and every now and then thrusting in their "javelin bills," spiking and bringing out long wriggling flashes of silver that went alive down their throats, he would still be thinking it over. Yes; he was forgetting her. He began to be in better spirits. He was in very good spirits one day in January when, quite unknown to him, the snow was shovelled away from the corner of a quiet churchyard in which his mother slept, and room was made beside her for the old man who had loved him as his own.

Old Daniel Mortimer had no such *following* as had attended the funeral of his mother, and no such peaceful sunshine sleeping on a landscape all blossom and growth. The wind raged, and the snow whirled all about his grave and in it. The coffin was white before the first clod of earth was thrown on it, and the mourners were driven out of the churchyard, when the solemn service was over, by such gusts of storm and whirling wind as they could hardly stand against.

His will was read. He had hardly anything to leave. His directions were very simple and few, and there was a little desk locked up in a cabinet that nobody thought about, and that the one person who could have opened it, supposed to concern exclusively himself. So when he came, six months after, and looked about him with regretful affection; when he had put the old man's portrait up in a place of honour, and looked to the paying of all the debts, for everything, even to the furniture, was now his own; when he had read the will, and sealed up all such papers as he thought his half-brother Valentine might afterwards want to refer to — he betook himself to his own particular domain, his long room in the top of the house. There, locking himself in, he opened his cabinet, and taking out the little desk, sat down to look for and read this letter.

The desk was soon opened. He lifted one half, saw several old miniatures which had belonged to his own father's family, a lock of his father's hair which he remembered to have seen in his mother's possession, and one or two trinkets. No letter.

It was not without some slight trepidation that he opened the other side, and there, nothing else being with it, a large letter sealed with black and directed to himself in his step-father's well-known hand, it was lying.

As he took the letter up, a sensation so faint, so ethereal that it is hard to describe or characterize it, but which most of us have felt at least once, came over him, or rather came about him, as if something from without suggested a presence.

He was free from any sensation of fear, but he chose to speak; lifting up his face as if the old man had been standing before him he said aloud, "Yes, I promised." The feeling was gone as he spoke, and he broke the seal.

A long letter. His eyes, as it was folded, fell first on these surprising words, "I forbade my mother to leave her property to me," and then, "I have never judged her," the aged writer continued, "for in her case I know not what I could have done."

Brandon laid the letter down, and took a moment for thought, before he could make up his mind to read it through. Some crime, some deep disgrace, he perceived was about to be confided to him. With a hurried sense of dislike and shrinking from acquaintance with it, he wondered whether his own late mother had known anything of it, then whether he was there called upon to divulge it now, and to act. If not, he argued with himself, why was it to be confided to him?

Then he addressed himself to his task, and read the letter through, coming to its last word only to be still more surprised, as he perceived plainly that beyond what he could gather from those two short sentences already quoted, nothing was confided or confessed, nothing at all — only a request was made to him, and that very urgently and solemnly, but it concerned not himself, but his young brother Valentine, for not content with repudiating the family property for himself, the old father was desirous, it was evident, through his step-son, to stand in the way and bar his own son's very remote chance of inheriting it either.

A thing that is very unexpected and moderately strange, we meet with wide-opened eyes, with a start and perhaps exclamations; but a thing more than strange, utterly unaccounted for, quite unreasonable, and the last thing one could have supposed possible as coming from the person who demanded it, is met in far quieter fashion.

Brandon leaned back in his chair and

slowly looked about him. He was conscious that he was drawing deeper breath than usual, and that his heart beat quickly, but he was so much surprised that for the moment his thoughts appeared to scatter themselves about, and he knew not how to marshal them and make them help him as to what this might mean.

Mystery in romance and in tales is such a common vulgar thing, in tragedy and even in comedy it is so completely what we demand and expect, that we seldom consider what an astonishing and very uncommon thing it is when it appears in life. And here in a commonplace, well-conducted, happy, and united family was a mystery pointing to something that one of its best-loved members had never had a hint of. Whatever it was, it concerned a place little more than fifty miles off, and a man in whose presence he had lived from his early childhood; the utmost caution of secrecy was demanded, and the matter spoken of entirely changed the notions he had always held concerning his step-father, whom he had thought he knew better than any man living. When one had believed that one absolutely understood another, how it startles the mind to discover that this is a mistake! A beautiful old man this had been — pious, not very worldly-wise, but having a sweetness of nature, a sunny smile, and a native ease about him that would not have been possible without a quiet conscience. This he had possessed, but "I forbade my mother to leave her property to me." His step-son turned back the page, and looked at those words again. Then his eyes fell lower. "In her case I know not what I could have done." "When did he forbid this — was it ten years ago, twenty years, fifty years? He was really very well off when he married my mother. Now where did he get the property that he lost by his speculations? Not by the law; his profession never brought him in more than two hundred a year. Oh! he had it from the old cousin that he and Grand often talk of, old John Mortimer. And that's where the old silver plate came from. Of course, and where John got his name.

"We always knew, I think, that there was an aged mother; now why did I take it for granted that she must be in her second childhood? I wonder whether John put that into my head. I think I did remark to him once when I was a boy and he was living at home, that it was odd there was no portrait of her in either of the houses. (But no more there is of Grand now I come to think of it; John never could make him sit.) Before the dear old man got so infirm he used generally to go out about once a year and come back in low spirits, not liking to be questioned. He may have gone then to see his mother, but I know sister used to think he went to see the relations of that wretched woman, his first wife. Who shall say now?"

And then he sat down and thought and thought, but nothing came of his thinking. Peter Melcombe, so far as he knew, was perfectly well; that was a comfort. Valentine was very docile; that was also a comfort; and considering that what his father had wished for him nearly four years ago was actually coming to pass, and everything was in train for his going to one of the very best and healthiest of our colonies, there seemed little danger that even if Melcombe fell to him he should find the putting it from him a great act of self-denial.

And what a strange thing it was, Brandon thought, that through the force of circumstances he himself should have been made to bring about such an unlikely thing! That so young a man should want to marry was strange enough. It was more strange that he should have fixed on the only woman in the world that his brother wanted. This said brother had thought it the very climax of all that was strange that it should have devolved on him who had command of money and who knew the colonies, to make this early marriage possible. But surely the climax of strangeness was rather here, that he had all this time been working as if on purpose to bring about the longing desire of his old step-father, which till then he had never heard of, depriving Valentine as much as was possible of his freedom, shutting him up to the course his father wanted him to follow, and preparing to send him as far as in this world he could be sent from the dreaded precincts of Melcombe.

Brandon had devoted out of his moderate patrimony a thousand pounds each to his step-brother and his step-sisters. In the case of Valentine he had done more; he had in a recent visit to New Zealand bought some land with a dwelling-house on it, and to this place it was arranged that immediately on his marriage Valentine should sail.

Brandon felt a strong desire to go and look at Melcombe, for his step-father s

conduct with regard to it kept coming back to his mind with ever-fresh surprise; but though he searched his memory it could yield him nothing, not a hint, not a look, from any one which threw the least light on this letter.

"But that there's crime at the core of it, or some deep disgrace," he soliloquized, "appears to me most evident, and I take his assurance in its fullest meaning that he had nothing to do with it."

The next morning, having slept over the contents of the letter, he went to his upper room, locked himself in, and read it again. Then after pausing a while to reconsider it, he went up to the wall to look at a likeness of Dorothea Graham. Valentine had a photographing machine, and had filled the house with portraits of himself and his beloved. This was supposed to be one of the best. "Lucky enough that I had the sense to leave this behind me," thought Brandon. "Yes, you sweet thing, I am by no means breaking my heart now about you and your love for that boy. You are sure to marry him; you have a faithful heart, so the best thing for him will be to let you marry as soon as possible. I'll tell him so as we walk to John Mortimer's today. I'll tell him he may do it as soon as he likes."

Accordingly as about six o'clock he and Valentine walked through a wood, across a common, and then over some fields, Brandon began to make some remark concerning the frequent letters that passed between these youthful lovers. "It is not to be supposed," he observed, "that any lady would correspond with you thus for years if she had not fully made up her mind to accept you in the end."

"No," answered Valentine with perfect confidence; "but she knows that I promised my father to wait a few months more before I decidedly engaged myself, but for that promise I was to have had an answer from her half a year ago."

Brandon fully believed that Dorothea Graham loved his brother, and that her happiness was in his own hands. He had found it easy to put the possibility of an early marriage in Valentine's way, but nothing could well go forward without his sanction, and since his return he had hitherto felt that the words which would give it were too difficult for him to say. Now, however, that remarkable letter, cutting in across the usual current of his thoughts, had thrown them back for awhile. So that Dorothea seemed less real, less dear, less present to him.

The difficult words were about to be said.

"If she knows why you do not speak, and waits, there certainly is an understanding between you, which amounts almost to the same thing."

"Yes," said Valentine, "and in August, *as she knows*, I shall ask her again."

"Then," said Brandon, almost taking Valentine's breath away with sudden delight, "I think, old fellow, that when she has once said 'yes,' you had better make short work with the engagement; you will never be more ready to marry than you are now; you are a few months older than John was when he went and did it; and here you are, with your house in New Zealand ready built, your garden planted, a flock of sheep bought, and all there is to do is to turn out the people now taking care of the place, as soon as you are ready to come in."

Brandon was standing on a little plank which bridged a stream about two feet wide; he had turned to say this, for Valtentine was behind him.

Valentine received the communication first with silence, then with a shout of triumph, after which he ran completely round his brother several times, jumping over the stream and flourishing a great stick that he held, with boyish ecstacy, not at all dignified, but very sincere. When he had made at least three complete circles, and jumped the stream six times, Giles gravely walked on, and Valentine presently followed, wiping his forehead.

"Nobody could have expressed my own sentiments in more charming English," he exclaimed; "I never heard such grammar in my life; what a brick you are, St. George!"

Giles had great faith in his theory that absence always cures love, also in his belief that his was cured and half forgotten. At that moment he experienced a sharp pang, however, that was not very like forgetfulness, but which Valentine converted almost into half-scorn when he said—

"You know, Giles, she always did show the most undisguised liking for me from our first meeting; and then look how constant she has been, and what beautiful letters she writes, always trying too to improve me. Of course I cannot even pretend to think she would not have engaged herself to me months ago if I might have asked her."

"All true, perfectly true," he thought to himself; "he loves her and she loves

him, and I believe if she had never met with Valentine, she would still never have married me. What a fool I am!"

"Why wouldn't you take this view of things yesterday, when I tried to make you?" asked Valentine.

"I was not ready for it," answered Giles, "or it was not ready for me."

Thereupon they passed through a wicket-gate into a kind of glen or wilderness, at the end of John Mortimer's garden, and beyond the stream where his little girls acted Nausicaa and his little boys had preserves of minute fishes, ingeniously fenced in with sticks and fine netting.

"There's Grand," exclaimed Valentine, "they've brought him out to look at their water-snails. What a venerable old boy he is! he looks quite holy, doesn't he?"

"Hold your tongue," said Brandon, "they'll hear you. He's come to see their newts; they had a lot yesterday at the bottom of the punt. Little Hugh had one in his hand, a beast with an orange breast, and it was squinting up at him."

It would be hard to say of any man that he is *never* right. If he is always thinking that he has forgotten a certain lady, surely he is right sometimes.

They went in to dinner, a party of four, for John Mortimer since his wife's death did not entertain ladies, and Miss Christie Grant always presided at an early dinner, when the governess and the children dined.

As the dinner advanced St. George and Valentine both got into high spirits, the former because a stronger conviction than usual assured him that he was forgetting Dorothea Graham; the latter, because instead of being pulled back, he had at last got a shove in the other direction. In short, Valentine was so happy in his jokes and so full of fun, that the servants had no sooner withdrawn than John Mortimer taxed him with having good reason for being so, mentioned the probable cause, and asked to see Miss Graham's portrait, "which, no doubt," he said, "you have got in your pocket."

"Why I have had that for years," said Valentine scornfully.

"And dozens of them," said Brandon; "they took them themselves."

"When is it to be?" asked old Grand with great interest.

"I don't exactly know, uncle; *even Giles* doesn't know that! If he had known, I'm sure he would have told you, and asked your advice, for I always brought him up to be very respectful to his elders."

"Come, sir, come," said the old man laughing, "if you don't *exactly* know, I suppose you have a tolerably distinct notion."

"I know when I should like it to be, and when I think D. would like it. Not too late for a wedding-tour, say October, now, or," seeing his brother look grave, "or November; suppose we say November."

"I'm afraid there is no wedding-tour in the programme," observed Brandon. "The voyage must be the tour."

"Then I'll go without my cart. We must have a tour; it will be the only fun I shall ever be able to give her."

Valentine had inherited only about two hundred pounds from his father, he having been left residuary legatee, and he was much more inclined to spend this on luxuries than on necessaries.

"You've bought me land, and actually paid for it yourself, and you've bought me a flock, and made me a barn, and yet you deny me the very necessaries of life, though I can pay for them myself! I must have a tour, and D. must have a basket-carriage."

"Well, my dear fellow," said Grand, "though that matter is not yet settled, it is evident things are so far advanced that we may begin to think of the wedding-presents. Now, what would you like to have from me, I wonder? I mean how would you prefer to have it? John and I have already considered the amount, and he quite agrees with me as to what I ought to give to my only brother's only son."

"*Only brother's!*" The word struck Brandon both as showing that the old man had almost forgotten other dead brothers, and also as evidently being the preface to a larger gift than he had anticipated.

"Thank you, uncle," said Valentine, almost accomplishing a blush of pride and pleasure. "As you are so kind as to let me choose, I should like your present in money, in my pocket, you know, because there is the tour, and it would go towards that."

"In your pocket!" exclaimed John Mortimer, with a laugh of such amusement and raillery as almost put Valentine out of countenance.

"Why, do you think my father wants to give you a schoolboy's tip?"

"I think a good deal depends on the lady," said Grand, who also seemed

amused; "if she has no fortune, it might be wise to settle it on her; if she has, you might wish to lay it out in more land, or to invest it here; you and Giles must consider this. I mean to give you two thousand pounds." Then, when he saw that Valentine was silent from astonishment, he went on, "And if your dear father had been here he would not have been at all surprised. Many circumstances, with which you are not acquainted, assure me of this, and I consider that I owe everything to him." There was a certain sternness about these words; he would have, it was evident, no discussion.

John Mortimer heard his father say this with surprise. "He must mean that he owes his religious views to my uncle," was his thought; but to Brandon, who did not trouble himself about those last words, the others were full of meaning; the amount of the gift, together with the hint at circumstances with which Valentine was not acquainted, made him feel almost certain that the strange words, "I forbade my mother to leave her property to me," alluded to something which was known to the next brother.

Valentine, at first, was too much surprised to be joyous, but he thanked his uncle with something of the cordial ingenuousness and grace which had distinguished his father.

"I can have a tour *now*, can't I, old fellow," he said after a time to his brother; "take my wife" — here a joyous laugh — "my WIFE on the Continent; we shall go dashing about from place to place, you know, staying at hotels, *and all that!*"

"To be sure," said Brandon, "staying at hotels, of course, and ordering wonderful things for breakfast. I think I see you now —

> Happy married lovers,
> Phillis trifling with a plover's
> Egg, while Corydon uncovers
> With a grace the Sally Lun."

"That's the way this fellow is always making game of me," exclaimed Valentine; "why I'm older than you were, John, when you married."

"And wild horses shall never drag the words out of me that I was too young," said John Mortimer, "whatever I may think," he continued.

"John was a great deal graver than you are," said Brandon; "besides, he knew the multiplication table."

"So do I, of course," exclaimed Valentine.

"Well," answered Brandon, "I never said you did not."

From Macmillan's Magazine.

THE TERCENTENARY FESTIVAL AT LEYDEN.

IT seems well worth while for an eye-witness to give some account of this memorable feast, as most of the "special correspondents" who wrote in the daily papers concerning it had evidently either not gone to Leyden at all or had not been admitted to any of the ceremonies. They enumerated people as present who were not present. They did not know in what language some of the addresses were delivered. And one of them at least endeavoured to conceal his ignorance by such flippant impertinence, that he has since been personally exposed in the indignant Dutch papers. We are accustomed to letters from Khiva being written in London offices, but it seems hard that the excellent Hollanders should have their contemporary history disposed of in such summary fashion. They had spared no pains to make the Tercentenary of their great academy famous all over Europe. Months ago a formal bilingual invitation in Dutch and in Latin had been sent to all the academies in Europe asking them to send representatives to Leyden. Thirty-eight responded to the call affirmatively. Many more sent polite and respectful apologies. From the extremities of Europe — from Hungary and from Ireland, from Finland and from Portugal — men came and brought with them their state robes to do honour to the great mother of Scaligers, Boerhaaves, and Salmasii. The Swedes telegraphed that six feet of snow had suddenly blocked up their railways, and that travelling was impossible. The Romans could not send an embassy from Italy, but chose an eminent Hollander (Professor Boot) to represent them. There was but one strange exception to the eagerness and respect shown by all Europe — Oxford was unrepresented. Nay, more, Oxford had not answered the invitation. The Hollanders have a great respect for Oxford. The late king was educated at Christchurch. The present master of Balliol was among the half-dozen Englishmen who were selected for honorary degrees. Yet, as Oxford men

are rarely discourteous, it was feared by some that they were imperfectly informed as to where Leyden was and what Leyden had done. And yet Leyden is certainly the most celebrated and the most meritorious university in Europe. There is no other centre of education which has so often been the home of the first man of his day. From the days of Scaliger and Boerhaave down to the present day, when Leyden can boast of the best Greek scholar in Europe, this has frequently been the case. If English universities could forget this, or if they were ignorant of it, so much the worse for their own reputation.

But it has since transpired that Oxford was guilty of no intentional discourtesy. The *Academy* deserves the credit of eliciting the fact, that the vice-chancellor was ill when the invitation arrived, and that it was in consequence mislaid. It is understood that he has now formally expressed the regrets of Oxford to the senate of Leyden. The incident suggests but one remark. If the courtesy of Oxford depends so completely on the health of the vice-chancellor, it is hoped that in future a sound and vigorous constitution will be made a necessary qualification for that august office.

The visitors were invited to arrive before Sunday, 7th February, when the festivities were opened by a sermon in the great church. This sermon was not in a dead language, as was stated in the *Athenæum*, but in Dutch. The service resembled that of the Scotch Church, in its gauntness and want of elegant ritual. The preacher obtained for himself pauses in the discourse by giving out hymns, which were sung by two thousand voices in long-drawn and solemn unison, but so slow withal that the melody was well nigh lost. What made the effect most curious to a foreigner was that most men had their hats on during the sermon, and that several deacons were all the while going round with long landing-nets of black velvet, and fishing for alms among the people. These inexorable deacons, not satisfied with one requisition, returned twice to the charge; and the reckless stranger, who, in imitation of the widow in the gospel, had cast in his two mites together, began to discover that in Holland alms are paid in instalments, and that had she been a Dutchwoman she would have made two bites of the cherry, and applied each mite separately to satisfy the demands of a new collector. The sermon was doubtless very eloquent, to judge from the sonorous strings of great names with which it abounded, but the details, though the general argument was in the main obvious, were high Dutch to almost all the foreigners. Owing to this obstacle there was, it must be confessed, some relief felt when the great congregation began to surge and scatter, pouring out of the doors into the clear, frosty sunlight. The picturesque old town was all hung with streaming banners, and great barges were coming up the canals laden to the water's edge with rich exotic plants and hothouse flowers, with which the lower windows of every street were to be richly set out. Foreign flags marked the houses where the professors were entertaining the representatives of the respective nations; and already groups of strangers, learned-looking men in spectacles and careless dress, might be seen wandering to and fro, and making their first survey of the town.

But after a five o'clock dinner (the usual hour in Holland), all the learned world was assembled at the first state reception given by the burgomaster. Here indeed was a scene such as will not again be witnessed for many a day. Orientalists, hellenists, latinists, historians, philosophers, physiologists, jurists, theologians — all men of mark in the world — were all introducing and being introduced, all discussing and responding, all jabbering in a number of languages, so that, as was profanely remarked, but for the absence of one most important personage, it seemed a veritable Day of Pentecost. Unfortunately the fashion of making speeches seems universal in Holland, and accordingly much hindrance was offered to conversation by the general compliments which polite guests and gracious hosts lavished upon each other. The pleasantest discourse was certainly that of Ernest Renan, who spoke with great frankness and feeling of the miseries of France, and excited general admiration by his elegant style and his vivacious action. But still every moment lost from conversation that evening was well-nigh irreparable. There were the great critical scholars, Cobet, Madvig, Pluygers, and Boot — the real successors of Porson and Bentley in Europe; the historians, Dozy and Ernst Curtius; the orientalists, Nöldeke, Kern, Veth, De Goeje, Vullers, Renan; the theologians, Scholten, Kuenen, Kahnis, Biedermann; the antiquarians, Stark and G. Perrot; the phys-

iologists, Milne-Edwards and Donders; the jurists, Jhering and Nypels — and these are selected almost at random from among the two hundred that thronged the room. Happily there were several such receptions, so that in spite of the speeches, there was a chance of hearing some fragments of talk from the lips of these giants. So the time ran on till midnight, when the guests who were not fatigued adjourned to the students' club — entitled the Minerva — there to enjoy cigars and champagne,* and more speeches. But here the speeches were a more remarkable feature. After an elegant Latin welcome by M. Kappeyne, the president, speeches were made in Latin, Dutch, French, English, and German, all of which were thoroughly appreciated and enjoyed by some five hundred students who thronged the room.

It was a sight to astonish any foreigner; and the members of British universities might well feel ashamed when they compared the high culture and large accomplishments of the Leyden students with those of their own alumni. Imagine speeches in five languages addressed to our students! Imagine them making speeches in Latin or in German! When we perceive the admiration felt in England for Oxford and Cambridge; when we perceive the tacit assumption of superiority among many members of these wealthy institutions, we are often deceived into thinking them leaders of thought in Europe. It is a painful question, but one which was forced upon all the great visitors to this inter-university celebration — What are the English universities doing for the thought of Europe? Who among their scholars is a real leader of men?

But this is disagreeable digression. It should be noted concerning the students that, as their culture is superior to that of English and Irish students, so their habits and ways seemed not inferior to the average Oxford or Cambridge men. The Dutch are not the least like the average German student — untidy, poor, and duelling; and even where the German students are gentlemanly and refined, as many are at Göttingen, there always remains the barbarism of the duel. The Dutch are far above this level. They have private means. They are even accused of extravagance. They live in handsome lodgings, with good appointments. They have good wine and good cigars for their friends. They do not give their enemies the satisfaction of hacking their faces. Their conduct all through the feast, as stewards, as spectators, as audiences, was most exemplary. At the solemn giving of degrees there was no approach to the disgraceful scenes which have often been the opprobrium of Oxford and Dublin. They were hospitable, generous, enthusiastic; and always gentlemen. There are now nearly eight hundred of them, residing for four years at least. They pay from 10*l.* to 20*l.* in fees, and if not preparing for any special profession, consider law the best general training. Thus about two-thirds of them appear to be law-students. They use the term *philosophers* for natural philosophers, of whom there are a good many, particularly attached to the views of Mr. Darwin. These alone escape the inestimable advantage of the classical lectures of Cobet and Pluygers, which all the rest attend. A few statistics such as these are worth mentioning by way of parenthesis, though this paper is not on the university, but on the festival. Yet the English reader, who is usually perfectly ignorant of all foreign institutions, and to whom it is perhaps new that Cobet is professor of Greek at Leyden, may enjoy even these elementary notions about the famous Lugdunum Batavorum.

To follow out the various entertainments in their exact order would be monotonous, and would involve much repetition. It must therefore suffice to say something on the separate heads of dinner-parties, orations, and of general conversation. The deputations were invited to two state dinners: one given by the university, in a large town-hall, the other by Prince Frederick, the king's uncle, at his palace, entitled the "*Huis de Pauw*" (*Domus Pavonum*). In addition to these entertainments there were a concert and an opera given by the citizens, a second evening (or rather morning) with the students at their *Concordia*, an evening reception by the curators, and an afternoon reception by the king and queen, who came to Leyden specially to honour the university and its guests. This interest shown by the royal family for a purely academic meeting was not the least remarkable feature, or the least contrasted with the habits of other courts. The appointments were in all cases very splendid. The banquet of the prince was equal in every respect to those given in our own country by princes and great

* Not pipes and beer, as the *Times* imagined.

noblemen. The *menu* was, however, decidedly longer, though its French was not more perfect than what we see on our fashionable tables. There was the same wonderful variety of wines, of which the Dutch, however, partake honestly, thus disproving our idle fears that a mixture will prove headachy. But the most marked difference in both dinners from ours was this: that, owing to the great profusion and length of the courses, as well as the intense fever for making speeches, the toasts began when dinner was about half over, and thus it required all the ability of the officers in waiting at Prince Frederick's to keep silence among the attendants. At the public dinner in Leyden this was not accomplished, and so the speeches were accompanied with a clatter of plates and knives, and an occasional jingle of glasses. But so many were the speeches, and so many the occasions for delivering them, that even the orators bore the interruption most good-humouredly; and many a sly guest made it an excuse for continuing an interesting conversation he had begun with some remarkable neighbour. If the cooking differed at all from the best French method, it was in the greater richness of the condiments, and in the more complete disguising of nature under the cloak of art.

Of course, the proper place to hear the oratorical power of the Hollanders was not at dinner, where the strangers were very prominent, but at the solemn meetings of the university, at the first of which the outgoing rector, Professor Heynsius, made an oration in Dutch, of which a French version was considerately circulated among the strangers when they took their places in the church. Despite the arctic cold of the building which was all the more bitterly felt as the strangers were in state dress, the oration was heard with great attention, and its vigour and boldness greatly praised. It seemed very odd to foreigners to hear from the pulpit of a church an attack on theology of the most vehement kind. "*L'ancien ménage la tolère encore*," said the orator, "*mais le sort qui l'attend ne semble pas douteux dès qu'un nouveau ménage remplacera celui qui a fait son temps. Le grand principe de la séparation de l'Eglise et de l'Etat exige sa chute avec une inexorable rigueur. Nous ne le regrettons pas — personne d'entre nous.*" As is well known, the theological school of Leyden, the school of Scholten and Kuenen, is very advanced and sceptical indeed, yet even granting this, the outspoken boldness of the address was freely criticised by the Dutch themselves. But still the most orthodox thing done at the festival was to give Professor Jowett a theological degree; and they evidently guarded themselves against the suspicion of any such weakness by associating with him Mr. Martineau and M. Athanase Coquerel!

The second state speech was a very elegant address to the assembled deputies in the senate-house, made by the secretary, Professor de Vries, in Latin. The scene was, perhaps, the most striking during the week. In this famous small room, which has been so often praised and cited, were assembled the most various collection of learned men the world has seen together for many a day, while the walls were equally crowded with the long series of splendid professors that had lived and taught in Leyden. Such an occasion might well inspire the orator, who spoke with unusual fire. The answers of the deputies were very poor and brief in comparison; but it must be said in justice to them, that they were intentionally brief, owing to pressure of business and want of time. The third oration was that of the new rector, Professor Buys, at the conferring of the honorary degrees. But this speech being made in Dutch, and without a translation, was hardly appreciable at first hearing without a thorough knowledge of the language. Its irony was subtle, and its style very elegant; indeed, it was declared by the nation to be *the* speech of the festival; but its very excellence made it too hard for outsiders to understand until they read it.

The general impression made by Dutch eloquence, as compared with that of the other nations was this: that while decidedly pleasanter than German, which is harsh in conversation, and still harsher in public speaking, it was not so pleasant as French, especially those delicate French *causeries*, which made M. Renan and M. Gaston Paris such favourites whenever they rose. As compared with English speakers, the chief difference seemed to be the prevalence of the habit of learning off by heart — a habit almost universal in Dutch sermons, and obvious enough all through the festival orations, as well in the highest and most venerable authorities, as in the young and nervous student. This practice must have its effect upon the speaker, and must necessarily impair the freshness and grace of

his delivery. If it were not impertinent and ungrateful to requite such hospitality by advice, the Irish spectator were disposed to impart the time-honoured and masterly advice of the elder Cato — *Rem tene, verba sequentur.*

Conversation is almost always more agreeable than set speeches, because it must necessarily conform to this rule, and the conversation at Leyden was no exception. After all the feasts and the state receptions, and the audiences with the king, and the gracious queen, and the affable princes, audiences necessarily short, and yet full of interest — after the exuberant evenings with the students, where the eager young faces warm the heart with as deep a delight as all the gold and the jewels of royal state — after all these varied distractions have been calmly reviewed, the conviction ripens that of all the many pleasures provided, that which was the least consciously provided by the hosts was the best — it was the daily contact with the great men who are now maintaining the old honour and renown of their famous university. It were obviously impossible for any single observer to appreciate all these men, for to appreciate each great specialist, some knowledge of each science is necessary, and who can attempt this nowadays? So then each visitor felt drawn to his congenial spirits, nor were those the least fortunate who knew classics enough to approach the great hellenist of Holland, and hear him speak of his own life and training, and of his principles in criticising the Greek classics.* The English scholar might well feel proud to hear him discard all German influences, and rank himself as strictly the follower of the great English school — the school of the three Richards, of Porson, and Bentley, and Dawes. This school has now, alas! migrated to Leyden. But it is the genius of Cobet which has transplanted it. Under his magic influence, under the strange fascination of his strong, bold, vehement nature, every earnest classical student is turned into the strict path of criticism, is trained in palæography, and through this necessary preparation set upon the duty of purifying our Greek texts; and so it happens that the lesser lights in Leyden have done and are doing more to amend our classics than all the stars of the British universities together. This great hellenist professes to know no Latin, and yet to hear him speak in Latin is a perfectly new sensation. No one could borrow a speech from him without instant detection. There is a Ciceronian flavour about it, which even at Leyden, the home of Latin speeches, is quite unapproachable. And yet he is evidently thinking in Latin, and forming his sentences as he proceeds. Even Madvig shrank from replying to his eloquence, and confessed that he had here met his master.

Were it not a violation of the obligations of guests, many pleasant pages could be filled with anecdotes of such men as these by any fair observer. But the men of Leyden would doubtless look upon such a vivisector among them with greater fear than Cicero did upon Catiline, who, sitting in the senate, *notat et designat oculis ad cædem unumquemque nostrum.* Such a crime were worse than parricide. It would furthermore close the doors of the hospitable mansions, now open to English visitors with a hearty welcome. It is therefore safer and more profitable to advise young English scholars, who fancy themselves masters of their subject, to pay a visit to this seat of learning, and compare what they find there with what they have learned in England. Steamboats have not yet abolished insular prejudice, or railways conquered national pride. We still want contact with foreign learning, intimacy with foreign research, sympathy with foreign thought — if the republic of letters is to become a great state, instead of remaining a mere conglomerate of "village communities." For this reason periodical festivals and celebrations are more than mere recreation, better than mere dissipation; and this was so strongly felt by all the visitors at Leyden, that we may expect its great example to be followed by other universities. Though few can hope to equal the splendour of the late ceremony, the good seed which it has sown will doubtless not be suffered to lie dormant or to decay.

J. P. MAHAFFY.

* Those who take an interest in such things can appreciate the man by reading his *Variæ Lectiones*, in which there is more good Latin prose, and more sound Greek scholarship, than in an ordinary library of classical commentaries.

FOUR SONNETS ON A PHILISTINE THEME.

I.

MY LITTLE BOY'S FACE.

O LITTLE face, little, loved tender face,
Set, like a saint's, in curls for aureole —
Little, loved face, in which the clear child-soul
Is mirror'd with a changeful perfect grace;
Where sudden ripples of light laughter chase
The dimples round the dainty mouth; where roll
Cloud-shadows of great questionings, and dole
For human ills half realized; where race,
In restless sequence, gloom, gleam, shade, and shine —
A thousand feelings, sorrow, love, and joy
A thousand thoughts, of folly half divine,
And bold imaginings, and fancies coy,
And reasonings dream-like! — O my boy, my boy,
How I do love that little face of thine!

II.

LIFE.

O little face, how soon the years, alas!
Shall score stern lines upon that pure smooth brow,
And round the eyes and vermeil mouth, where now
No harshness dwells, but all emotions pass
As subtle-smooth as light winds over grass —
Aye score stern lines, marking the when and how
Of all life's storms: I hear their sway and sough
Coming; they gloom upon us; from the mass
Of congregated clouds leap fire, and rain,
And thunder; then they sob themselves to sleep.
But, ah! the difference in the summer plain,
The shatter'd woods, the sodden meadows deep,
And blasted promise of the golden grain; —
And at the change I cannot choose but weep.

III.

THE CLASSICAL IDEAL.

Must then thy beauty be so soon outworn —
A canker'd bud doom'd to untimely death;
A hoar-frost landscape, melting at a breath
Into unsightly drops; a pearl-rose morn
Heralding sleet and dank grey mists forlorn;
A goodly garment, as the Psalmist saith,
The moth shall fret until it perisheth?
For so some hold, deeming all beauty born
Of youth's fresh tinting and untroubled lines,
Of colour only and of form — aye, hold
That it must fade as each full feature pines
With age, and the flush cheek grows wan and cold,
The eye less bright, and chill with silver shines
The hair of bronze that had the sheen of gold.

IV.

THE GOTHIC IDEAL.

O artist soul! and art thou then the slave
Of that dull workman, Time? I tell thee nay;
He is thy studio drudge, to mould youth's clay
At thy behest, and at thy will to grave
Manhood's stern marble. So thou guide the knave,
Then shall each touch and chisel-stroke display,
In lines perchance now broken in the sway
Of effort, now harmoniously suave,
Thy pure high thoughts, which an inviolate will
Guards from the passion-strokes of pain and ill,
And slow corrosion of the mean and base;
And to life's close, not only in the ken
Of the great Master Critic, but of men,
Beauty shall sit enthroned upon that face.

Examiner. FRANK T. MARZIALS.

As was to be expected, the estimates for the Arctic Expedition were passed by the House of Commons with complete unanimity. The sum asked for was 98,620*l*. There was appended to the estimate a further sum of 16,000*l*. for the next financial year; and for future years, while the expedition is out, there will be an additional sum of 13,000*l*. In addition to all this, there is a contingent possibility of about 50,000*l*. being required in case of its being thought necessary or desirable to send out a relief ship in consequence of the expedition not having returned as soon as was expected. We do not think it likely that this last item will ever be required, though it is creditable to the House that not a voice was raised against any of the items in the estimate. It has been decided that a man-of-war will accompany the expedition as far as Upernivik, where she will fill the ships up with coals and provisions. It is stated that the "Pandora," which was one of the vessels named for the expedition, but was condemned on survey, has been purchased from the Admiralty by Mr. Allen Young, a lieutenant in the Royal Naval Reserve, and it is rumoured that he will assume command of her, and accompany the "Alert" and "Discovery" during the summer. Mr. Young served with Admiral Sir Leopold M'Clintock on board the "Fox" in the Franklin Search Expedition. Nature.